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# PREDICTION

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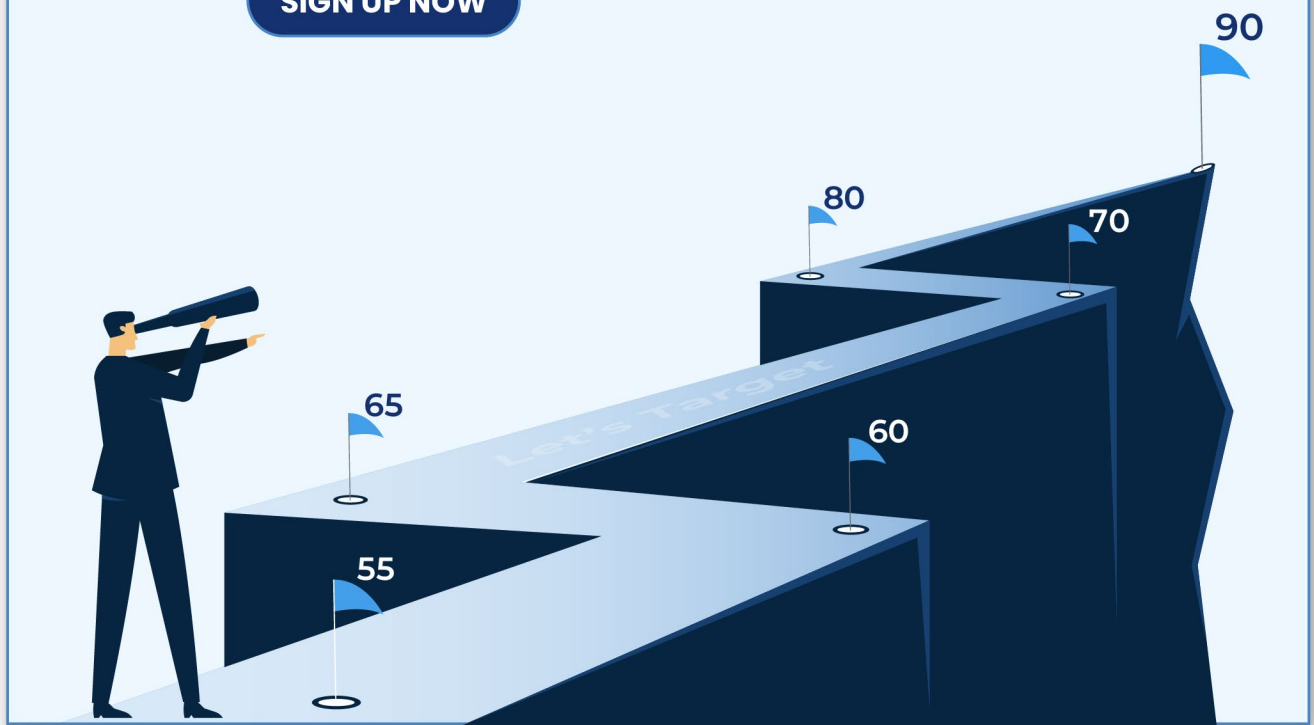
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**SPEAKING**







## READ ALOUD

1. The Texas law prohibiting abortion after detectable embryonic cardiac activity was associated with a decrease in in-state abortions and an increase in residents obtaining out-of-state abortions. The proportion of out-of-state abortions obtained at 12 weeks increased significantly from 17.1% to 31%.
2. People in their 20s and 30s who drink moderate to heavy amounts of alcohol may be more likely to have a stroke as young adults than people who drink low amounts or no alcohol, according to a study. The risk of stroke increased the more years people reported moderate or heavy drinking.
3. Most babies start developing their hearing while still in the womb, prompting some hopeful parents to play classical music to their pregnant bellies. Some research even suggests that infants are listening to adult speech as early as 10 weeks before birth, gathering the basic building blocks of their family's native tongue.
4. USA sexually 'teased' its troops in the First World War to make them fight harder. Believing that sexually satisfied men could not be easily motivated, the aim of this teasing was to generate unmet sexual desire, which the War Department could leverage as motivation to fight.
5. A new breed of rice that is a hybrid of an annual Asian rice and a perennial African rice could be a more sustainable option. The hybrid rice was able to produce grain for 8 consecutive harvests over four years at a yield comparable to the standard annual Asian rice, with much lower costs and labour.
6. According to a peer-reviewed study medical cannabis led to "a statistically significant improvement" in quality of life, employment status, and in the



reduction of the number of medications in those with Tourette's Syndrome, in addition to improving comorbidities.

7. There were various explanations for volcano behavior before the structure of the earth mantle as a semisolid material was developed. For decades, awareness that compression and radioactive materials may be heat sources was discounted and volcanic action was often attributed to chemical reactions and a thin layer of molten rock near the surface.
8. This is a new, accessible and engaging textbook written by academics who also work as consultants with organizations undergoing change. It offers a unique combination of rigorous theoretical exploration together with practical insights from working with those who are actually responsible for managing change.
9. The word radical from the Latin word for roots means anyone who advocates fundamental change in the political system. Literally, a radical is one who proposes to attack some political or social problem by going deep into the social or economic fabric to get at the root cause and alter this basic weakness.
10. The whole purpose of making notes is to aid your learning. It is important to go back over them within a day of making them to make sure they make sense and make them legible for future revisions. Also, going back over them should highlight the key questions of areas in which you want to do further reading.
11. We believe in the inherent value of research in the humanities and social sciences. And our research data agenda is given by the pursuit of new knowledge that will be of benefit of Australia and the world. We offer one of the most comprehensive programs in the humanities and social sciences in Australia and the Asian Pacific region.



12. In the late 16th and 17th centuries, many English, French and Dutch emigrants went to North America in search of gold and silver. But they did not find it. Instead, settlers were forced to support themselves by cultivating crops that they could sell in Europe, like tobacco, indigo and rice.
13. The natural environment can be hazardous, and, with increased travel and leisure, people today are more likely than ever to be exposed to potentially life-threatening conditions. Although the human body can adjust to some extent, it cannot cope with poisons or prolonged exposure to extremes of environment.
14. We seek to improve learner's experience of education at college and help them to aspire, achieve and progress. We must embed equality and diversity in everything we do, both as a provider and an employer. We hope to prepare our students for work, higher education and citizenship by equipping our staff with the skills to meet this agenda.
15. Training to become an actor is an intensive process which requires curiosity, courage and commitment. You'll learn how to prepare for rehearsal, how to rehearse and how to use independent and proactive processes to achieve your best work possible for stage and screen.
16. The brain is divided into two hemispheres, called the left and right hemispheres. Each hemisphere provides a different set of functions, behaviors, and controls. The right hemisphere is often called the creative side of the brain, while the left hemisphere is the logical or analytic side of the brain.
17. Another administration option is to bake marijuana at a relatively low temperature to kill any dangerous microorganisms and then allow that patient to eat it or drink it. Both of these methods of administration make smoking the drug unnecessary. However, criticism of medical marijuana has also been raised because as a natural plant, it cannot be patented and



marketed by pharmaceutical companies and is unlikely to win widespread medical acceptance.

18. The bill calls for the establishment of the National Landslide Hazards Reduction Program within one year of becoming law. The program serves numerous functions, including to identify and understand landslide hazards and risks, reduce losses from landslides, protect communities at risk of landslides hazards, and improve communication and emergency preparedness.
19. Long isolated from Western Europe, Russia grew up without participating in the development like the Reformation that many Russians' taking pride in their unique culture find dubious value. Russia is, as a result, the most unusual member of the European family, if indeed it is European at all. The question is still open to debate, particularly among Russians themselves.
20. It seems that language appeared from nowhere since no other species has anything resembling human language. However, other animals do possess basic systems for perceiving and producing sounds that enable them to communicate. These systems may have been in place before the appearance of language.
21. As we progress into the 21st century, communications are becoming faster and faster. Think of the millions of different media images you are bombarded with every day. It is as important now to be able to read and make sense of those images, as it has been to be able to read ordinary text.
22. Teenage girls are continuing to outperform boys in English while the gender gap in achievements in math and science has almost disappeared. The figures show that last year 80% of 14-year-old girls reached at least the expected level 5 in English, compared with 65% of boys. But in math, the girls are just 1% ahead of boys, while in science the difference is 2%.



23. China's war on particulate air pollution is causing more severe ozone pollution. According to the new research, there was so much particulate matter in the smog around Chinese cities that it helped to quell ozone production by acting as a sponge that collected chemical radicals.
24. The committee would also like to express its gratitude to the independent assessors who joined the committee for consideration of each case. Their expertise and advice play a vital role in our work. A list of independent assessors who attended meetings during this reporting year is included at Appendix D.
25. It is normally expected that the final version of your thesis which must be submitted to the university library in both hardcopy and electronic form will be freely available to the public. Once in the library, your thesis may be consulted, borrowed and copied in accordance with the regulations.
26. Many individuals have unwittingly contributed to this book through sharing ideas with us as colleagues, students, practitioners, tourists, and residents of destination areas. They are too numerous to thank individually. And indeed, it is not possible to isolate exactly their specific contributions.
27. This report includes a huge swath of macroeconomics, such as the effects of tax reform, a new industrial policy, and understanding how to deal with the uncertainty inherent in global financial market. But it also covers key areas of microeconomic policies, such as boosting laggardly rates of productivity.
28. We've spent a lot of money over the last seventy years on flood control, and it's protected millions of people and has saved us billions of dollars. We've built dams to hold back the waters. We've built levees to keep the water off the people, and we've raised the ones that were originally started in seventeen eighteen.



29. We want a recreation in adulthood of what it felt like to be administered to and indulged. In a secret part of our minds, we picture someone who will understand our needs, bring us what we want, to be immensely patient and sympathetic to us, act selflessly, and make it all better.
30. It's not easy to make a wind turbine blade. Conventional blades require a lot of labor. They are a sandwich composed of fiberglass, sheets of balsa wood and a chemical called an epoxy thermoset resin. A heat oven is required to give blades the proper shape, strength, smoothness and flexibility to catch the wind and turn the turbine.
31. The most obvious change is that 46% of college undergraduates are now women. When I went there, it was only the third year that women had been admitted, and then seemingly grudgingly: about 70% of students were male, and if there was a woman tutor she must have been a male impersonator.
32. Globalization refers to a set of changes rather than a single change. Many of these changes are social, cultural and political rather than purely economic, and one of the main drivers in addition to the global marketplace is the communication revolution.
33. In the past, wars have led to inflation and higher commodity prices. Fighting disrupts trade and prevents raw materials from being shipped from one country to another. In second-world-war Britain, a banana was the highest of luxury.
34. Most people do not realize that some banks literally make money by giving loans without having money on deposit. The system is called fractional reserve banking and is used in most economies. It sounds as though it is safe because it says that banks have to keep a fraction of their deposits with the Reserve Bank.







35. Your subject outlines are a good place to go to find information about which textbooks to buy. You will usually be given one of these for each subject in the first lecture, but if you are missing one or need one earlier then you should contact the subject coordinator.
36. The carbon is essential to life on earth, but scientists still struggle to grasp its complexities. Most research to date has focused on major sources of the greenhouse gas carbon dioxide, and the use of fossil fuels. A new study has come to the counter-intuitive conclusion that plants might accumulate more carbon in the presence of predators and herbivores.
37. Eating a handful of almonds a day significantly increases the production of butyrate, a short-chain fatty acid that promotes gut health. Whole-almond eaters had an additional 1.5 bowel movements per week compared to the other groups. Eating almonds could also benefit those with constipation.
38. A lullaby or cradle song, is a soothing song or piece of music that is usually played for children (for adults see music and sleep). The purposes of lullabies vary. In some societies they are used to pass down cultural knowledge or tradition. Lullabies can be found in many countries, and have existed since ancient times.
39. To prevent mosquito-transmitted diseases, approaches based on genetic control of insect populations are being developed. However, many of these strategies are based on highly invasive, self-propagating transgenes that can rapidly spread the trait into other populations of mosquitoes.
40. The role of women in promoting voluntary medical male circumcision uptake: research reveals the important role played by women in influencing men to undergo circumcision. Women are also motivated to convince men to undergo male circumcision because of the benefits associated with them such as reduction of HIV transmission and cervical cancer.



41. Every few seconds, our eyelids automatically shutter and our eyeballs roll back in their sockets. So why doesn't blinking plunge us into intermittent darkness and light? New research shows that the brain works extra hard to stabilize our vision despite our fluttering eyes. When our eyeballs roll back in their sockets during a blink, they don't always return to the same spot when we reopen our eyes.
42. Covid-19 pandemic is linked to early onset of puberty in some girls. Several studies suggest that the number of girls starting puberty early has more than doubled amid the coronavirus outbreak, and experts are unsure about exactly why.
43. The problem is that increased immune vigilance has a side effect: allergies. Our speculation is that this is some kind of trade-off. In the past you needed to resist some kind of pathogen, and the trade-off or sacrifice you have to make is increased responsiveness to nonpathogenic allergens. So next time some of you get the springtime sniffles, blame your distant ancestor – the one with the heavy brow ridge.
44. Cool room temperature inhibited cancer growth in mice: mice acclimatized to temperatures of 4°C had significantly slower tumor growth and lived nearly twice as long compared with mice in rooms of 30°C because they were burning more brown fat.
45. The dyes and pigments available in any particular period in which a specific color photographic process was invented, manufactured and used have profound effects on the quality of color that defines most of the style and particular historical period.
46. Research has found we pursue more rewards when we become 'habituated' to a higher standard of living and compare ourselves to various standards.





What it takes to be happy depends on our prior expectations, but these expectations can change over time.

47. Research has shown that the gut microbiome is important for human physiology and health. Disturbances to the composition of the gut microbiome can be associated with chronic diseases such as gastrointestinal inflammatory disorders, neurological, cardiovascular and respiratory illnesses. The human body has evolved strategies to ensure that a symbiotic relationship exists between the microbes in our gut and our cells.
48. Deep brain stimulation (DBS) to the superolateral branch of the medial forebrain bundle (MFB), which is linked to reward and motivation, revealed metabolic brain changes over 12 months post-DBS implantation, making it a strong potential therapy for treatment-resistant depression.
49. James Webb Space Telescope was specifically designed to observe this light, which comes from some of the oldest galaxies to take form. How did early stars and galaxies take shape? What about the cosmic material that is undetectable, known as dark matter? Is there evidence for it in the early eons of the universe? These are some of the perplexing and fascinating questions that astronomers can begin unraveling with Webb.
50. Investigations like this one have been plodding along for 40 years, and some studies – like one following the deadly Kobe quake in 1995 – have found similar correlations. But study author Alasdair Skelton, a professor of geochemistry at Stockholm University, says the unpredictable study subject makes it tough to get funding because you can in no way guarantee a result. So I get three years of money, but if there's no earthquake, there's no result.
51. Neutron stars – the compressed remains of massive stars gone supernova – are the densest "normal" objects in the known universe. (Black holes are technically denser, but far from normal.) Just a single sugar-cube worth of



neutron-star material would weigh 100 million tons here on Earth, or about the same as the entire human population.

52. Electric vehicles have arrived. With technology led by Tesla, and all of the world's major car manufacturers following along behind, electric vehicles are now a common sight on the roads of most developed countries. Yet the situation in less developed countries is rather different; the only African country to have started the change to electric vehicles is South Africa.
53. A dramatic fireworks display can be the highlight of a summer. It also can provide a feast for the senses. Bright colors delight the eye. Thunderous booms and whistles surprise the ear. If you're close to the show, you can feel the pressure waves that ripple from each exploding shell. And folks downwind of the action can smell the burnt gunpowder that fueled each rocket – and perhaps even taste it in the air.
54. What produces these effects are familiar to neuroscientists: external light and dark signals that help set our daily, or circadian, rhythms, "clock" genes that act as internal timekeepers, and neurons that signal to one another through connections called synapses. But how these factors interact to freshen a brain once we do sleep has remained enigmatic.
55. Cloud seeding, a form of weather modification, is a way of attempting to change the amount of precipitation that comes from clouds. Cloud seeding is carried out by dispersing substances into the air, but it also occurs due to ice nucleates in nature, most of which are bacterial in origin.
56. Japan is the world's calculator superpower. Japanese manufacturers have led sales of calculators for over 30 years in many countries. Even in the age of personal computers, calculators are still essential in accounting jobs. In addition, calculators with graphing capabilities have begun to be used in education.



57. Whether salamander frog or toad, amphibians are some of the most diverse and far-flung animals on the planet. However, they're disappearing, and experts are worried since frogs are considered bellwethers for the environment. Their double life makes them unique. It's through their skin that they breathe and drink water because their skin is so permeable.
58. The Executive Residence in the White House in the United States of America, where the president resides, is divided into several wings. It also includes the vice-president's and president's staff's offices. This government building is a national heritage.
59. Countries bordering the Mediterranean have built up a solid reputation for sunshine, great tasting food as well as impressive health statistics, featuring some of the lowest rates of heart disease, and increased life expectancy. This has created a lot of attention towards the Mediterranean diet, which is not a typical weight loss diet, but more of a set of habits.
60. Intangible assets perform a number of distinctive functions in the life of each company. Firstly, they witness the prosperity of the firm in its good name. Such a position allows human resource management to employ professional workers and increase labor productivity. Moreover, intangible assets guarantee future value for the firm. And although it is difficult to destroy intangible assets, they can lose their importance in case of carelessness or business failure.
61. If you do experience a motorcycle crash, be aware the other driver will most likely blame you for the accident. This includes the road, road conditions, any skid marks, road signs, construction, and anything else that may have contributed to the accident. Not every accident requires an attorney but a knowledgeable local attorney can help you make sense of the process, as



well as ensure that the other driver's insurance doesn't unfairly blame you for the accident.

62. The slight decline in drug overdose deaths in 2018 coincides with Chinese regulations on the powerful opioid carfentanil, rather than the result of domestic U.S. efforts to curb the epidemic, a new analysis reveals. What many – including President Donald Trump – perceived as a decline in overdose deaths in 2018, appears to be a return to the historic exponential curve.
63. European wildcats, thought to be extinct 50 or so years ago in the Jura mountains, have since recolonized part of their former territory. This resurgence in an area occupied by domestic cats has gone hand-in-hand with genetic crosses between the two species. A team of biologists modeled the interactions between the two species to predict that hybridization will entail the irreversible genetic replacement of wildcats.
64. Using an X-ray laser, a research team has investigated how water heats up under extreme conditions. In the process, the scientists were able to observe water that remained liquid even at temperatures of more than 170 degrees Celsius. The investigation revealed an anomalous dynamic behavior of water, which is of fundamental importance for the analysis of sensitive samples using X-ray lasers.
65. Researchers have found a way to convert the aromatic substance vanillin into a redox active electrolyte material for liquid batteries. The technology is an important step towards ecologically sustainable energy storage.
66. Territory is an area of land or space that belongs to someone or a group. It's like your home turf or where you have control. People, animals, and countries all have territories. Think of it as your special piece of the world that you can call your own.



67. A subcontinent is a big piece of land that's smaller than a whole continent but still quite large. It's like a "mini" continent. One famous subcontinent is India, which has its own culture and identity within the bigger continent of Asia. Subcontinents have unique features and are often seen as distinct regions within a larger landmass.
68. Teaching is when someone helps another person learn new things. It's like sharing knowledge and skills. Teachers use methods like explaining, showing examples, and giving assignments to help students understand and grow. Teaching can happen in schools, at home, or even in everyday life when people share what they know with others.
69. A chef is a skilled cook who prepares delicious meals. Chefs can work in restaurants, hotels, or even at home. They know how to use various ingredients and cooking techniques to create tasty dishes. Chefs often design menus and are experts in making food not only taste great but also look appealing.
70. Scholarships are like special gifts of money that help students pay for their education. They are given to students who show talent, hard work, or a particular interest in a subject. Scholarships can cover some or all of the costs of school, like tuition and books. They're a way to make education more affordable and give deserving students a chance to pursue their dreams.
71. Worship is when people show their respect, love, or devotion to a god or something they deeply believe in. It often involves rituals, prayers, and ceremonies. Worship can take place in places like churches, temples, or even at home, and it varies among different religions and belief systems. It's a way for individuals to express their spiritual connection and show reverence.
72. The legislation, which Democrats hope to push through the Senate by the weekend, remains among the largest federal relief packages in modern



American history. It would deliver hundreds of billions of dollars for vaccine distribution, hospitals, state and local governments, and families struggling to recover from the economic toll of the coronavirus pandemic.

73. Charlie Chaplin and his brother Sydney were placed in an orphanage at a very early age. Becoming a vaudeville performer, he joined Fred Karno's company in 1906. He made his film debut in *Making a Living* (1914) and introduced the famous seedy and soft-hearted gentleman tramp routine, which became his hallmark. Numerous films for various studios brought him world fame, all based on his mastery of pathos and slapstick acrobatics.
74. Participating regularly in physical activity has been shown to benefit an individual's health and wellbeing. Regular physical activity is important in reducing the risk of chronic diseases, such as heart disease and stroke, obesity, diabetes, and some forms of cancer. The National Physical Activity Guidelines for Adults recommends at least 30 minutes of moderate-intensity physical activity, preferably every day of the week, to obtain health benefits.
75. Prolonged exposure to loud noise alters how the brain processes speech, potentially increasing the difficulty in distinguishing speech sounds, according to neuroscientists. Exposure to intensely loud sounds leads to permanent damage of the hair cells, which act as sound receivers in the ear. Once damaged, the hair cells do not grow back, leading to noise induced hearing loss.
76. English colonies emerged along the eastern seaboard for a variety of reasons. People, primarily men, originally migrated to Virginia to find gold and silver to make a quick profit. After it became evident that there were no precious metals in the area, men came to Virginia to start cultivating cash crops like tobacco.





77. Surgical site infections are caused by bacteria that get in through incisions made during surgery. They threaten the lives of millions of patients each year and contribute to the spread of antibiotic resistance. In low- and middle-income countries, 11% of patients who undergo surgery are infected in the process.
78. We understand the importance of supporting and restoring biodiversity, and we are teaming up with the world's leading molecular biologists, technologists, conservation biologists, conservation organizations, ethicists, and thought leaders to call for 'Intended Consequences' to help us safely use all of the available tools that can provide the advantage we need to turn the tide on species loss.
79. Nell and his colleagues took to the Everglades at night, hunting for gators near and far from nests.' You have to use a spotlight and you see the little demon eyes shining out of the marsh.' They lassoed the gators, pulled them into the airboat, and took blood samples and body measurements.
80. The scientists say this is the first documented instance of nectar that attracts a particular animal assistant being produced outside of a nectary. In fact, the observed nectar bleeding might actually be an early system that evolved to include the nectaries found in other plants today.
81. The sad truth is that happy sounds are infectious. Now comes research that at least partly explains why? It was published this week in the journal of neuroscience. A British research team played various sounds including laughter to people who are having their brain scanned by a functional MRI machine. All the sounds activated the premotor cortical region of the brain, that area prepares facial muscles to move.
82. Written by ten eminent professors, it had been updated to reflect the shifts of sociological thought in the last five years, making it the most comprehensive,



authoritative, and contemporary dictionary available. It was essential reading for all students and teachers of sociologies and other related courses, and also for the general reader.

83. Teenage girls are continuing to outperform boys in English while the gender gap in achievements in math and science has almost disappeared. The figures show that last year 80% of 14-year-old girls reached at least the expected level 5 in English, compared with 65% of boys. But in math, the girls are just 1% ahead of boys, while in science the difference is 2%.
84. Certainly, one of the most important values of literature is that it nourishes our emotional lives. An effective literary work may seem to speak directly to us especially if we are ripe for it. The inner life that good writers reveal in their characters often gives us glimpses of some portion of ourselves. We can be moved to laugh, cry, tremble, dream, ponder, shriek, or rage with a character by simply turning the page instead of turning our lives upside down.
85. Introvert tends to recharge by spending time alone. They lose energy from being around people for a long period of time, particularly large crowds. Extroverts, on the other hand, gain energy from other people. Extroverts actually find their energy is sapped when they spend too much time alone. They recharge by being social.
86. Although Botswana's economic outlook remains strong, the devastation that AIDS has caused threatens to destroy the country's future. In 2001, Botswana had the highest rate of HIV infection in the world. With the help of international donors, it launched an ambitious national campaign that provided free antiviral drugs to anyone who needed them, and by March 2004, Botswana's infection rate had dropped significantly.
87. Along with all that they have in common, infants also show unique individual traits. Some are more active than others, some are more sociable and some





are more interested in the world around them. Infants earlier on show consistent differences in friendliness and anxiety level which form part of their early character.

88. The information session is a 45-minute presentation conducted by an admission representative. Immediately following the session is a 90-minute walking tour of the campus led by a student ambassador. Walking tours of the campus generally include classroom buildings, a residence hall room, a dining hall, the library, athletic facilities, performing art facilities, and the student union.
89. In medicine, the application of information technology means the digitalization of medical records and the establishment of an intelligent network for sharing those records. Other benefits flow from these technological changes. In the past medicine has taken a paternalistic stance, with the all-knowing physician dispensing wisdom, but that is becoming increasingly untenable.
90. Regular exercise releases brain chemicals key for memory, concentration, and mental sharpness at the same time as lifting your mood, and lowering stress and anxiety all of which contribute to brain health. Studies show that regular exercise helps you manage complex tasks, organize and razor-sharpen your focus which is great for those long revision sessions or particularly complex exam questions.
91. Our central aim is to enable you to develop knowledge and attitudes and skills that are conducive to constructive involvement, cooperation and teamwork with others and will serve you well in future endeavors. To succeed, the process demands all of us a serious exercise in civic responsibility.
92. Since our graduate admission school is not centralized, each of the university 6 schools and colleges admits students to its own programs. For information



about specific program degrees, graduate applications, graduate admission requirements and procedures, graduate scholarships and status of your application, visit the individual school websites.

93. The findings of modern research support the view that the evolution of primitive men and its culture should be regarded as "unity". Yet this unity is exceedingly complex, and future research will doubtless enable us to make finer distinctions between the periods that people composed it.
94. The wonderful framework of mature trees creates a secluded implants atmosphere that unites a great variety of plantings to inspire visitors in all seasons. Spring in the garden is marked by leafing up and flowering of trees and the eruption of the flowers in the bulb meadows, and woodland understory.
95. The speaker reminisces about his views of the English Revolution when he was a student and how it seemed quite clear which side he was on - 'the aristocrats, not the puritans'. Later he realized there was more to it than that and there were several ways of interpreting the Revolution: as a struggle between the king and parliament, as a class war or as an unpredictable situation without clear sides.
96. History is selective. What history books tell us about the past is not everything that happened, but what historians have selected. They cannot put in everything: choices have to be made. Choices must similarly be made about which aspects of the past should be formally taught to the next generation in the shape of school history lessons.
97. Global water consumption has increased almost fourfold in the past 100 years, and many regions can only meet their water demand thanks to essential contributions from mountain regions. In 30 years, almost a quarter of the world's lowland population will strongly depend on runoff from the



mountains. Only sustainable development can ensure the important function of mountain areas as Earth's 'water towers'.

98. Summerhill School was regarded with considerable suspicion by the educational establishment. Lessons were optional for pupils at the school, and the government of the school was carried out by a School Council, of which all the pupils and staff were members, with everyone having equal voting rights.
99. Nature offers no greater splendor than the starry sky on a clear, dark night. Silent, timeless, jeweled with the constellations of ancient myth and legend, the night sky has inspired wonder throughout the ages – a wonder that leads our imaginations far from the confines of Earth and the pace of the present day, out into boundless space and cosmic time itself.
100. The survey found that the statistical chances of someone from a poor background being accepted at one of the country's most respected universities are far lower than those of a student from a wealthy family. This means that the inequalities in society are likely to be passed down from one generation to the next.
101. Quite obviously, a significant rise in the number of people in a given area or country will affect the demand for a whole host of goods and services. Note that a change in the structure of the population will increase the demand for some goods but reduce the demand for others
102. A level of competence in chemistry is essential to the professional practice of material conservation. An understanding of scientific concepts and a basic scientific vocabulary enables the conservator to understand conservation problems, treatments, material techniques in a systematic and quantifiable way, which can be communicated not only to colleagues in the profession but also those from other disciplines.



103. Tissues are grouped together in the body to form organs. These include the brain, heart, lungs, kidneys, and liver. Each body organ has a specific shape and is made up of different types of tissue that work together. For example, the heart consists mainly of a specialized type of muscle tissue, which contracts rhythmically to provide the heart's pumping action.
104. The life of a hunter-gatherer is indeed, as Thomas Hobbes said of the state of nature, 'solitary, poor, nasty, brutish, and short'. In some respects, to be sure, wandering through the jungle bagging monkeys may be preferable to the hard slog of subsistence agriculture.
105. The Assembly also decided that, at that special session, it would adopt a concise and action-oriented political declaration, agreed upon in advance by consensus through intergovernmental negotiations under the auspices of the Conference.
106. Aquaculture, also known as aquafarming, is the farming of aquatic organisms such as fish, crustaceans, molluscs and aquatic plants. Aquaculture involves cultivating freshwater and saltwater populations under controlled conditions.
107. Emerald is defined by its green color. To be an emerald, a specimen must have a distinctly green color that falls in the range from bluish green to green to slightly yellowish green. To be an emerald, the specimen must also have a rich color. Stones with weak saturation or light tone should be called "green beryl." If it is greenish yellow it is "heliodor." This color definition is a source of confusion.
108. While blue is one of the most popular colors, it is one of the least appetizing. Food researchers say that when humans searched for food, they learned to avoid toxic or spoiled objects, which were often blue, black or purple. When food dyed, blue is served to study subjects, they lose appetite.



109. When countries assess their annual carbon emissions, they count up their cars and power stations, but bush fires are not included presumably because they are deemed to be events beyond human control. In Australia, Victoria alone sees several hundred thousand hectares burn each year; in both and more recently, the figure has been over one million hectares.
110. Tesla's theoretical work formed the basis of modern alternating current electric power systems. Thomas Edison promised him almost one million dollars in today's money to undertake motor and generator improvement. However, when Tesla, the ethical Serb, asked about the money, Edison's reportedly reply was "Tesla, you don't understand our American humor." The pair became arch-rivals.
111. The core of the problem was the immense disparity between the country's productive capacity and the ability of people to consume. Great innovations in productive techniques during and after the war raised the output of industry beyond the purchasing capacity of U.S. farmers and wage earners.
112. Every morning, no matter how late he had been up, my father rose at five-thirty, went to his study, wrote for a couple of hours, made us all breakfast, read the paper with my mother, and then went back to work for the rest of the morning. Many years passed before I realized that he did this for a living.
113. Although it hails from a remote region of the western Himalayas, this plant now looks entirely at home on the banks of English rivers, and colonized riverbanks and damp woodlands. In the Himalayas the plant is held in check by various pests, but take these away and it grows and reproduces unhindered. Now it is spreading across Europe, New Zealand, Canada and the US.
114. Pluto lost its official status when the International Astronomical Union downsized the solar system from nine to eight planets. Although there had



been passionate debate at the General Assembly Meeting in Prague about the definition of a planet, and whether Pluto met the specifications, the audience greeted the decision to exclude it with applause.

115. Lincoln's apparently radical change of mind about his war powers to emancipate slaves was caused by the escalating scope of the war, which convinced him that any measure to weaken the Confederacy and strengthen the Union war effort was justifiable as a military necessity.
116. A young man from a small provincial town, a man without independent wealth, without powerful family connections and without a university education, moves to London in the fifteen eighties, and becomes a remarkable playwright of all time. How is an achievement of magnitude made? How does Shakespeare become Shakespeare?
117. Rarely, however, does a single research study produce the certainty needed to assume that the same results will apply in all or most settings. Rather, research is usually an ongoing process, based on many accumulated understandings and explanations that, when taken together, lead to a generalization about educational issues and practice, and ultimately, to the development of theories.
118. Your body is nearly two-thirds water. And so it is really important that you consume enough fluid to stay hydrated and healthy. If you don't get enough fluid you may feel tired, get headaches, and not perform at your best.
119. To some extent, attendance at cultural venues and events is influenced by a person's age and the composition of the household in which they live. For example, those people in households with dependent children were more likely to visit zoological parks and aquariums than people living in single person households.





120. Your tutor helps you make the most of your time at university by giving you guidance and support along the way. All new students are allocated a personal tutor who will encourage you to get the most out of your course, direct you to other sources of support and help you achieve your goals.
121. At a time when stress levels are soaring, rates of depression are increasing and the gap between rich and poor is ever widening. We believe that giving can play a positive role in helping people to feel connected to those around them and generate a sense of purpose and hope. When we give, we feel valued, useful and happy.
122. Three hundred and eighty years after his death, William Shakespeare remains the central author of the English-speaking world; he is the most quoted poet and the most regularly produced playwright – and now among the most popular screenwriters as well. Why is that, and who "is" he?
123. Statistics are indicators of change and allow meaningful comparisons to be made. While it may be the issues rather than the statistics as such that grab people's attention, it should be recognized that it is the statistics that informed the issues. Statistical literacy, then, is the ability to accurately understand, interpret and evaluate the data that inform these issues.
124. The course considers the ways in which thinkers have responded to the particular political problems of their day and the ways in which they contribute to a broader conversation about human goods and needs, justice, democracy, and the proper relationship of the individual to the state.
125. Within this free course, you will be introduced briefly to the discipline of child psychology and to theories and approaches that have been developed to help us understand and support children's lives by focusing on the individual children. Psychologists can assess changes in their child's abilities over time, including their physical, cognitive, social, and emotional development.



126. The networks of roots that plants use to absorb water and nutrients can encompass a space larger than the part of the plant visible above ground. The nature of these roots systems can help plants adapt to challenging environments such as deserts. For instance, mesquite trees can develop tap roots capable of digging more than 50 yards deep to reach water.
127. A community's urban forest is an extension of its pride and community spirit. Trees enhance community economic stability by attracting businesses and tourists as people tend to linger and shop longer along tree-lined streets. Apartments and offices in wooded areas rent more quickly and businesses leasing office spaces in developments with trees reported higher productivity and fewer absences.
128. An innovative new product or service can give a firm a head start over its rivals, which can be difficult for a new entrant to overcome. If the new technology is also patented, then other firms cannot simply copy its design. It is legally protected.
129. Agricultural problems due to climate change of normal weather, water depletion and the collapse of soil have become big problems in all parts of the world. Many are now focusing on ethics and family farming as a way to combat these issues.
130. The bill calls for the establishment of the National Landslide Hazards Reduction Program within one year of becoming law. The program serves numerous functions, including to identify and understand landslide hazards and risks, reduce losses from landslides, protect communities at risk of landslides hazards, and improve communication and emergency preparedness.
131. Moods may also have an effect on how information is processed, by influencing the extent to which judges rely on pre-existing, internal





information, or focus on new, external information. Positive moods promote more holistic and top-down processing style, while negative moods recruit more stimulus-driven and bottom-up processing.

132. Reiss took a stab at settling the argument with a meta-analysis, a study of studies, on whether people can really perceive better-than CD-quality sound. He analyzed data from studies, including more than participants and nearly thirteen thousand listening tests. Overall, listeners picked out the better-than CD-quality track fifty-two-point three percent of the time. Statistically significant, if not all that impressive.
133. It's not that human activities didn't impact wildlife at all of course. Heavily hunted species, like white-tailed deer, grey squirrels, and raccoons, were photographed somewhat less often in hunted areas. Coyotes showed up more often in hunted areas. While most species didn't avoid hiking trails, the predators actually preferred them.
134. Trade unions originated in Europe during the industrial revolution. Because of the machinery that had become commonplace, skilled labor became less in demand, so employers had nearly all of the bargaining power. Employers mistreated the workers and paid them too little for the work they did. Trade unions were organized that would help in the improvement of working conditions.
135. The brain is divided into two hemispheres, called the left and the right hemispheres. Each hemisphere provides a different set of functions, behaviors, and controls. The right hemisphere is often called the creative side of the brain, while the left hemisphere is the logical or analytic side of the brain. The right hemisphere controls the left side of the body, and the left hemisphere controls the right side.



136. Introvert, or those of us with introverted tendencies, tends to recharge by spending time alone. They lose energy from being around people for long periods of time, particularly large crowds. Extroverts, on the other hand, gain energy from other people. Extroverts find their energy is sapped when they spend too much time alone. They recharge by being social.
137. Such cross-protection is usually seen between two animals. But Gore studies the same sort of mutualism in microbes. He and his team demonstrated the first experimental example of that cross-protective relationship in drug-resistant microbes, using two strains of antibiotic-resistant E. coli bacteria: one resistant to ampicillin, the other to chloramphenicol.
138. The uniquely scented flavor of vanilla is second only to chocolate in popularity on the world's palate. It's also the second most expensive spice after saffron. But highly labor-intensive cultivation methods and the plant's temperamental life cycle and propagation mean production on a global scale is struggling to keep up with the increasing demand for the product.
139. Food is one of the most important things you'll ever buy. And yet most people never bother to think about their food and where it comes from. People spend a lot more time worrying about what kind of blue jeans to wear, what kind of video games to play, what kind of computers to buy.
140. Blue is the most popular color. Food researchers disagree when humans searched for food, they learned to avoid toxic or spoiled objects, which were often blue, black, or purple. When food dyed, blue is served to study subjects, they lose appetite.
141. Before European explorers had reached Australia, it was believed that all swans were white. Dutch mariner, Antoine Caen, was the first to be amazed at the sight of Australia's Black swans on the Shark Bay in 1636. Explorer Willem de Vlamingh captured two of these creatures on Australia's Swan River and



returned with them to Europe to prove their existence. From that point on, black swans and Australia have been closely linked.

142. A national study into fraud by bookkeepers employed at small and medium-sized businesses has uncovered 65 instances of theft in more than five years, with more than \$31 million stolen. Of the cases identified by the research, 56 involved women and nine instances involved men. However, male bookkeepers who defrauded their employer stole three times, on average, the amount that women stole.
143. Tesla's theoretical work formed the basis of modern alternating current electric power systems. Thomas Edison promised him almost one million dollars in today's money to undertake motor and generator improvement. However, when Tesla asked about the money, Edison reportedly replied "Tesla, you don't understand our American humor." The pair became arch-rivals.
144. Few things in the world produce such amazement as one's first of glimpse of the Grand Canyon; it took around more than 2 billion years to create this vast wonder - in some places. 17 miles wide, largely through the relentless force of Colorado River, which runs 277 miles along its length, a mile beneath its towering rims.
145. Australians do speak English. However, for some tourists and travelers, it can be difficult to understand the slang. Also, the links between Australian and American English were seen to be very tenuous. At least some colloquialisms in Australian English do not exist in other types of English.
146. Exhilarating, exhausting and intense. There are just some of the words used to describe doing an MBA. Everyone's experience of doing MBA is, of course, different through denying that it's hard and a demanding work whichever



course you do. MBA is one of the fastest growing areas of studying in the UK so that must be a sustainable benefit against form in one pain.

147. A unique characteristic of online shopping environments is that they allow vendors to create retail interfaces with highly interactive features. One desirable form of interactivity from a consumer perspective is the implementation of sophisticated tools to assist shoppers in their purchase decisions by customizing the electronic shopping environment to their individual preferences.
148. Certainly, one of the important values of literature is that it nourishes our emotional lives. An effective literary work may seem to speak directly to us especially if we are ripe for it. The inner life that good writers reveal in their characters often gives us glimpses of some portion of ourselves. We can be moved to laugh, cry, tremble, dream, ponder, shriek, or rage with a character by simply turning the page instead of turning our lives upside down.
149. Australians speak English of course. But for many tourists and even some locals, Australian English has only tenuous links with mother tone. Our speech is prepared with words and phrases whose arcane meanings are understood only by the initiate. It is these colorful colloquialisms that Australian slang set to truly explain.
150. Australia has one of the world's most important mining industries. It is a major exporter of coal, iron ore, gold and copper and is self-sufficient in all minerals bar petroleum. Since the first discoveries, the coal in 1798, mineral production has risen every year. In the decade to 1992 it doubled.
151. The Japanese tea ceremony is a ritual tour influenced by Buddhism in which green tea is prepared and served to a small group of guests in a peaceful setting. The ceremony can take as long as four hours and there are many traditional gestures that both the server and the guest must perform.



152. The preparation of abstracts is an intellectual effort, requiring general familiarity with the subject. To bring out the salient points of an author's argument calls for skills and experience. Consequently, a considerable amount of qualified manpower that could be used to advantage in other ways must be diverted to the task of facilitating access to information.
153. Public demand for education has remained strong, reflecting the importance of education as a means of social progress. Aware of the social value of education to the world of the work, the government continues to innovate and update the education system in order to produce a qualified and competent work force.
154. Exhilarating, exhausting and intense. There are just some of the words used to describe doing an MBA. Everyone's experience of doing MBA is, of course, different through denying that it's hard and a demanding work whichever course you do. MBA is one of the fastest growing areas of studying in the UK so that must be a sustainable benefit against form in one pain.
155. A unique characteristic of online shopping environments is that they allow vendors to create retail interfaces with highly interactive features. One desirable form of interactivity from a consumer perspective is the implementation of sophisticated tools to assist shoppers in their purchase decisions by customizing the electronic shopping environment to their individual preferences.
156. Categorization is the brain's tool to organize nearly everything we encounter in our daily lives. Grouping information into categories simplifies our complex world and helps us to react quickly and effectively to new experiences. Researchers identified neurons encoding learned categories and thereby demonstrated how abstract information is represented at the neuronal level.



157. The tropics are becoming hotter due to a combination of warming associated with deforestation and climate change, and that can reduce the ability of outdoor workers to perform their jobs safely. Researchers are estimating how many safe working hours people living in the tropics have lost due to local temperature change associated with loss of trees.
158. Computer- and smartphone-based treatments appear to be effective in reducing symptoms of depression, and while it remains unclear whether they are as effective as face-to-face psychotherapy, they offer a promising alternative to address the growing mental health needs spawned by the COVID-19 pandemic.
159. As technology keeps growing, political and economic leaders have utilized cinema in changing and shaping people's outlooks either for their own benefit or for the benefit of the people. Quality translations are also readily available and extremely affordable for everyone these days, which makes it easy for filmmakers to reach their target audiences from all corners of the world in their mother tongue.
160. Heart disease is the leading cause of death for both men and women in the United States. While often thought of as one illness, heart disease is actually an umbrella term that covers a range of heart conditions. It includes diseases of the blood vessels, including coronary artery disease and peripheral artery disease and so on.
161. No matter where we go on the planet, there are stunning plants, flowers, and animals that catch our attention. They are two very important aspects of any ecosystem. Of all the living organisms on the planet, the most commonly seen by us are the plant life and the animal life.
162. When you take a deep whiff of your morning coffee, the smell of those fresh-roasted beans darts into parts of the brain responsible for emotional and





memory processing, but our other senses don't work in the same way. That's why smell can trigger a happy memory more quickly than touching the hot coffee mug or tasting that first sip.

163. Australia has one of the world's most important mining industries. It is a major exporter of coal, iron ore, gold and copper and is self-sufficient in all minerals bar petroleum. Since the first discoveries, the coal in 1798, mineral production has risen every year. In the decade to 1992 it doubled.
164. It was found that while many companies express interest in Jacobson's use case approach, actual scenario usage often falls outside what is described in textbooks and standard methodologies. Users therefore face significant scenario management problems not yet addressed adequately in theory or practice, and are demanding solutions to these problems.
165. If countries can specialize in certain goods they can benefit from economies of scale and lower average cost. This is especially true in the industry with high fixed costs or that require a high level of investment. The benefits of the economy of scale will ultimately lead to lower prices for consumers and greater efficiency for exporting firms.
166. But on May 3, a couple of weeks later, Lincoln issued an executive order calling for 43,000 three-year volunteers for the army, and also increasing the size of the regular army and navy by 40,000 men. Both of these actions were in apparent violation of the constitution.
167. Today, telecommunication is widespread and devices that assist the progress are common in many parts of the world. There is also a vast array of networks that connect these devices, including computer, telephone and cable networks. Computer communication across the Internet, such as e-mail and instant messaging, is just one of many examples of telecommunication.



168. A thesis is a claim that you can argue for or against. It should be something that you can present persuasively and clearly in the scope of your paper, so keep in mind the page count. If possible, your thesis should be somewhat original.
169. The Royal Institution is an organization that has been around for 209 years. Many of the people that have worked here have been scientists themselves, including Michael Faraday. He made the discoveries that made generating and using electricity much easier, making it possible for us all to switch on lights, cook our dinner, play games consoles much, much more.
170. It is precisely in observing the intertwining's of success and failure that Chasing the Flame makes its greatest mark. With piercing insight and relentless logic, it reveals the pitfalls of international politics and details an intricate struggle between individual and institution. It haunts us with the poignant truth that even a great man can do only so much to reinvent the world.
171. It is very easy to acquire bad habits, such as eating too many sweets or too much food, or drinking too much fluid of any kind, or smoking, etc. The more we do a thing, the more we tend to like doing it. In later stage, if we do not continue to do it, we feel unhappy. This is called the 'force of habit' and the force of habit should be fought against.
172. Termites, the tiny creatures – have learnt to create a comfortable home in some of the world's toughest climates. Outside, in the African Savannah the temperatures vary from forty degrees in the day to one degree at night. Yet, inside the mound, the temperature stays constant.
173. Soil is the top layer of the Earth's surface, mostly created from weathered rock. It is made up of varying amounts of minerals, humus, or decayed organic matter, and useful living creatures like worms. The finest rock particles within





soil – forms sticky clay, the medium particles become silt, and the coarsest constitute sand. While there is sufficient moisture, soil supports vegetation, providing a habitat for a variety of animals.

174. Pronunciation is the way in which a word or a language is spoken. This may refer to generally agreed-upon sequences of sounds used in speaking a given word or language in a specific dialect ("correct pronunciation") or simply the way a particular individual speaks a word or language.
175. In a landmark report published on Monday, the international financial institution called on states to reduce global emissions and bridge the development gap to avoid the effects of slow-onset climate change such as water scarcity, decreasing crop productivity, and rising sea levels.
176. The interludes which break up the gameplay action, and which, because they can be made to a higher level of animation, often provide the most visually arresting sequences of a game. Combined with a taste for bizarrely complicated, recursive plots, and long sequences of wordy explicatory dialogue, this turns the games into a bit of a drag.
177. Conservation scientists have long tried to map how much of the planet remains undegraded by human activity. Previous estimates using satellite imagery or raw demographic data found anywhere from 20 to 40 percent of the globe was free from obvious human incursions, such as roads, light pollution, or the gaping scars of deforestation. But an intact forest canopy can hide an emptied-out ecosystem below.
178. These decisions are highly nuanced. Of course, we use a lot of data to inform our decisions, but we also rely very heavily on iteration, research, testing, intuition, and human empathy. Now, sometimes the designers who work on these products are called "data-driven," which is a term that totally drives us



bonkers. The fact is, it would be irresponsible of us not to rigorously test our designs when so many people are counting on us to get it right.

179. Artificial Neural Networks have recently become the state-of-the-art technique for crucial signal processing applications such as specific frequencies classification, structural health monitoring, diseases detection in power electronics circuitry, and motor fault detection. This is an expected outcome as there are numerous advantages of using an adaptive and compact deep counterpart, which particularly can be efficiently trained with a limited dataset of signals, besides requiring data transformation.
180. Biology is the natural science that studies life and living organisms, including their physical structure, chemical processes, physiological mechanisms, and evolution. Certain unifying concepts consolidate it into a single and coherent field that recognizes genes as the basic unit of heredity, and evolution as the engine that propels creation and extinction.
181. Social media are playing an increasingly important role as information sources for travelers. The goal of this study is to investigate the extent to which social media appear in search engine results in the context of travel-related searches. It also provides evidence for challenges faced by traditional providers of travel-related information.
182. Long isolated from Western Europe, Russia grew up without participating in the development like the Reformation that many Russians' takings pride in their unique culture find dubious value. Russia is, as a result, the most unusual member of the European family, if indeed it is European at all. The question is still open to debate, particularly among Russians themselves.
183. For any marketing course that requires the development of a marketing plan, such as Marketing Management, Marketing Strategy and Segmentation Support Marketing, this is the only planning handbook that guides students



through the step-by-step creation of a customized marketing plan while offering commercial software to aid in the process.

184. Blue is the most popular color. Food researchers disagree when humans searched for food, they learned to avoid toxic or spoiled objects, which were often blue, black, or purple. When food dyed, blue is served to study subjects, they lose appetite.
185. Surprisingly, despite what appear to be infinite variations, all difficult conversations share a common structure. When you're caught up in the details and anxiety of a particular difficult conversation, this structure is hard to see. But understanding that structure is essential to improve how you handle your most challenging conversations.
186. Food is one of the most important things you'll ever buy. And yet most people never bother to think about their food and where it comes from. People spend a lot more time worrying about what kind of blue jeans to wear, what kind of video games to play, what kind of computers to buy.
187. Expression became important during the romantic movement with artwork expressing a definite feeling, as in the sublime or dramatic. Audience response was important, for the artwork was intended to evoke an emotional response. This definition holds true today as artists look to connect with and evoke responses from their viewers.
188. Members of a culture must conform to its norms for the culture to exist and function. Hence, members must want to conform and obey rules. They first must internalize the social norms and values that dictate what is normal for the culture. Then they must socialize or teach norms and values to their children.
189. Experts discuss the significance of attending the theater as a civic occasion, associated with the political and cultural achievements of Athens. Through



archeology and analyses of contemporary art forms such as decoration on pottery, a picture is built up of ancient Greek theater.

190. In this course, we will explore how such things as department stores, nationally advertised brand-name goods, mass produced cars and suburbs transformed the American economy, society and politics. The course is organized both thematically and chronologically. Each period deals with a new development in the history of consumer culture.
191. The tortoise size and shell shape varies depending on where they live. The shell is made of bone and is a dull brown color. Their ribs, backbone and breastbone have become part of the shell, which is why you can never separate the tortoise from its shell.
192. Until now, Mars has been generally considered a geologically dead planet. An international team of researchers led by ETH Zurich now reports that seismic signals indicate volcanism still plays an active role in shaping the Martian surface.
193. A study of nearly 2,000 children found that those who reported playing video games for three hours per day or more performed better on cognitive skills tests involving impulse control and working memory compared to children who had never played video games.
194. Air pollution reduced when U.S. embassies around the world installed monitors and tweeted the Readings. The resulting reductions in air pollution levels had large health benefits for residents in these cities, speaking to the potential efficacy of other monitoring and information interventions.
195. Vitamin D deficiency linked to premature death. Over a 14-year follow-up period, researchers found that the risk for death significantly decreased with increased vitamin D concentrations, with the strongest effects seen among those with severe deficiencies.



196. Belief that the COVID-19 pandemic was a hoax – that its severity was exaggerated or that the virus was deliberately released for sinister reasons – functions as a “gateway” to believing in conspiracy theories generally. In study, pandemic skeptics were more likely to believe in 2020 election fraud.





## Repeat Sentence

1. Global warming is a threat to economic growth.
2. Experience would be an advantage for this managerial role.
3. Cells are the basic building blocks of all animals and plants.
4. Until you complete the form, you cannot attend.
5. Australia is the first AIDS free country in the world.
6. You cannot leave the examination center until you complete the form.
7. Parking permits can be collected through the student service office.
8. Introduce your staff thoughtfully into all aspects of the unit.
9. Don't hesitate to email me if you have any questions
10. Please don't forget to check your email for the updates of the week.
11. Accommodations on campus are limited but there are more options nearby.
12. The library is located on the north side of the campus.
13. Tuesday sessions will last for approximately two hours.
14. If you need any help let me know because I am here.
15. His objection to include scientific evidence has brought a lot of criticisms to him.
16. Today, I'd like to talk a little bit about the other theories that can explain the variations in climate.
17. Library timings are between four to ten, and you can register yourself online.
18. Students are afraid of writing an essay, because they have learned nothing about it
19. It is very important to wear masks during this pandemic.
20. The beggar was laughed at by the children.
21. This office is for students who want to study abroad.
22. The program is for technical and scientific students.





23. The deadline of assignments is the fourth of February.
24. Extension is only available under special circumstances.
25. There are lots of opportunities to meet people in this course.
26. The bus right out in the front will take you to the station.
27. The first assignment is due on the fourteenth of September.
28. What he's bringing to the company is financial expertise.
29. Lower speed limits are part of a new road safety campaign.
30. Languages are an essential part of the school curriculum.
31. I would like to make an appointment to see the professor.
32. The doctor examined her and said she had a chest infection.
33. Junior hospital technicians have to work very long hours.
34. The new tools are being tested by senior specialists.
35. The aim is to increase the speed of the processes.
36. A company may have the same legal rights as a person.
37. This type of butterfly travels to a country with a warmer climate in winter.
38. This teaching method provides the opportunity for students to learn by completing tasks.
39. You are recommended to only use footnotes when they are necessary.
40. Becoming a good actor requires persistence and motivation.
41. Training covers a range of scenarios that an actor might encounter.
42. The percentage of respondents who knew that the earth circles the sun once each year remained essentially unchanged.
43. The information you need for this meeting is on the website.
44. Scientific beneficiary to space exploration is frequently questioned.
45. Try to get through it as soon as possible.
46. We often ask our students to get access to all sorts of services.
47. This program is running in partnership with a number of departments.



48. Your abstract should contain the empirical evidence of your research.
49. I haven't done a lot of work in this area.
50. The students are supposed to assemble in the seminar hall before the announcement.
51. You are not sure that you can skip the sessions for Wednesday.
52. Car park permits can be obtained at the student service center.
53. We will change the classroom because this one is too small.
54. We are considering all candidates' backgrounds and identities.
55. Mobile phone chargers vary enormously from one place to another.
56. I am glad that Professor Gordon just joined our faculty.
57. You can borrow up to two books at the same time in the library.
58. The English expression is just a way of saying that age is not important.
59. The tutorial rooms are located along the left-hand side.
60. Let us see if the technology is going to cooperate with his presentation.
61. We have very little actual documentation of it.
62. The final exam will test material from all chapters covered in class this term.
63. Numerous courses devoted to life sciences are listed in the prospectus.
64. She's doing a master's degree by distance learning.
65. Understanding the historical context will help you appreciate the art in this era.
66. The campus car park will be closed next weekend.
67. Marks will be awarded for a bibliography in the correct format.
68. You realize that you can deal with a lot of situations.
69. The media have had a great influence on people's beliefs and attitudes.
70. We've been doing research in that area for probably 25 years.
71. The trial experiment is to increase the interests of the issue and the jurisdiction clause.



72. He told me it was the most important assignment of all.
73. The content of the book on the cover must be in capitals.
74. Many species have not yet been discovered by biologists.
75. Please note, the proposal submission deadline has been extended.
76. There are a range of housing options near university students.
77. The result of the experiment indicates that further research is needed.
78. The study demonstrates a need for further research in this field.
79. Most of the lectures begin promptly, so do not be late.
80. The result of the study will be published next month.
81. The trip for the professional training will start soon, so pack the items before we leave.
82. Lots of students had money and passports stolen especially at night.
83. To start your visit, I'm just going to give you a brief account of the history of the museum.
84. The gap between the rich and the poor was not decreased rapidly as expected.
85. I think of those leaders who inspire us to go beyond the call of duty.
86. You have to submit projects by the end of this week.
87. Computer failure is not an excuse for not submitting assignments on time.
88. Assignments should be submitted to the department office before the deadline.
89. Please make sure you have filled in all your details before submitting.
90. Please make an appointment before attending the next meeting.
91. The university offers scholarships to help students with financial need.
92. The campus dining hall serves a variety of healthy meals.
93. Social justice is an important topic in today's society.
94. The campus gym has state-of-the-art exercise equipment.



95. The business school offers internships and networking opportunities.
96. The university has a diverse student body from around the world.
97. The history of our society is complex and fascinating.
98. The university's online courses provide flexible learning options for students.
99. The university's MBA program is ranked among the top in the world.
100. Small businesses play an important role in local communities.
101. The university's football team has won several national championships.
102. The campus bookstore sells textbooks and school supplies to students.
103. The university's research facilities are among the best in the country.
104. Income inequality is a major challenge facing many societies today.
105. The campus is located in a bustling urban area.
106. The results of the study challenge previously held assumptions.
107. I took everything to the copy center this morning before class.
108. It's obviously vital that companies should fully understand their customers.
109. You can drop or add your courses online during the registration week.
110. Numerous courses devoted to life sciences are listed in the prospectus.
111. 39.5% California residents don't speak English at home.
112. Remember to sign the attendance register before leaving the lecture hall.
113. The real reason for global hunger is not the lack of food, but poverty.
114. The original Olympic Games were celebrated as religious festivals.
115. She has been in the library for a long time.
116. Even with the permit, finding a parking spot on campus is still impossible.
117. All the assignments should be submitted by the end of this week.
118. Unfortunately, the two most interesting economic electives clash on my timetable.
119. The new hypothesis needs to be tested with a new controlled experiment.
120. We didn't mean to ask him to do it because he cannot manage it.





121. Expertise in particular areas distinguishes you from other graduates.
122. The country's economy is primarily based on tourism.
123. Make sure the Financial Director knows the full details of the Pay Agreement.
124. We will need to make sure the school principal knows about the changes.
125. Many undergraduate students go back home and stay with their parents after graduation.
126. All old university buildings are still in use.
127. Every year, students pass the biology course easily.
128. The author expressed an idea that modern readers invariably cannot accept.
129. It is of the utmost importance that you follow the ethical guidelines carefully.
130. The first draft of the presentation is almost ready.
131. Students may not use calculators in the final exams.
132. For further information, you need to contact a member of our administration team.
133. In Russia, my colleagues said my written language was hard to understand.
134. Keeping organized class notes will make study time more efficient.
135. Making a profit and protecting the environment needn't be separate aims.
136. We heard the argument against it from several perspective.
137. After considering all the options she decided to take risks.
138. If you show your student card, you will get a discount.
139. The bus for London will leave 10 minutes later than planned.
140. The campus library will be closed during the winter break.
141. There are many different religions across the world.
142. The energy that we absorb from food can help us prevent the cold and become warmer.
143. In your introduction, show you understand the question in no more than four sentences.



144. Universities play major roles in students' lives.
145. Will those happy days ever be forgotten by you?
146. She told the faculty to be very supportive.
147. You need to read the chapter before the management class.
148. A very basic feature of computing is counting and calculating.
149. All students must return the books to the college library before the end of the term.
150. Note that the deadline of the submission of proposals has been extended for a week.
151. Tuition fees will vary according to the field of study.
152. The current labor force is more competitive than it has been for a long time.
153. Foods containing overabundant calories supply little or no nutritional value.
154. Newspapers around the country are reporting the stories of the president.
155. I am available this Thursday afternoon.
156. The department determines whether or not the candidates pass.
157. Today's lecture is canceled because the lecturer is ill.
158. Social work is not the only subject in sociology.
159. Collaboration is a feature of a successful company.
160. A man who suffered serious brain damage during an operation is suing the hospital.
161. To take this course students should have basic subject knowledge.
162. Will those happy days ever be forgotten by you?
163. Telecommunication is based on the array of networks.
164. My favorite sports are soccer, tennis and basketball.
165. Students will need to be in the lecture this Thursday.
166. Professor Tim Lee invented World Wide Web.





167. Application forms for sharing accommodations must be completed two months in advance.
168. Student's past education and experience are vital.
169. Essays and assignments should be submitted to the department office before the deadline.
170. The contemporary literature works have been broadened and extended through interpretation.
171. Such behaviors are regarded as a deviation of the norm.
172. His particular interest is in the eighteenth century French society.
173. None of the students found it difficult to get a job.
174. You have to submit the project by the end of the week.
175. It is expected that all students have their own laptops.
176. She has a small business about toys.
177. At that time, people moved from towns to villages.
178. Students must attend the safety course before entering the engineering workshop.
179. Knowledge becomes a vital role in young generations.
180. The literal output of this research is prolific and diverse.
181. There is a lot more about this topic in the university website.
182. Experts cannot agree on a single definition of intelligence.
183. The origin of psychology can be traced back to ancient Greece.
184. The graph shows the population growth in the last century.
185. A computer virus destroyed all my files.
186. A lot of agricultural workers came to the east end to look for alternative work.
187. A periodical is a publication that is issued regularly.
188. A preliminary bibliography is due the week before the spring break.
189. A study skill seminar is on for the students who require assistance.



190. A thorough bibliography is needed at the end of every assignment.
191. All essays and seminar papers submitted must be emailed to your tutor. .
192. All the assignments should be submitted by the end of this week.
193. Anyone who has a problem with their accommodation should speak to the welfare officer.
194. Being a vegan means not consuming any animal product.
195. Conferences are always scheduled on the third Wednesday of the month.
196. During the next few centuries, London became one of the most powerful and prosperous cities in Europe.
197. African elephant is the largest living land mammal in the world.
198. Even with a permit, finding a parking spot on campus is almost impossible.
199. I will be in my office every day from ten to twelve.
200. I've got a tutorial in an hour and I haven't had any time to prepare for it.
201. If you forget your student number, you need to contact Jenny Brice.
202. Meeting with mentors could be arranged for students who need additional help.
203. Meteorology is a detailed study of earth's atmosphere.
204. Most assignments need to be submitted on the same day.
205. To get further extension, you need to call the education executive on.
206. In this library, reserve collection books can be borrowed for up to three hours.
207. The residence hall is closed prior to the academic building closing time at the end of the semester.
208. She is an expert in the eighteenth century French literature.
209. We weren't able to agree on the appropriate independent variables.
210. By logging in, you agree to all terms and conditions regarding your enrollment.
211. Compiling a bibliography can present a major challenge for some students.
212. Please read the article that was given out yesterday.



213. Please make sure you use the standard form of quotation.
214. Living in the twenty first century is increasingly stressful.
215. Renewable energy sources are now used to produce electricity.
216. We have specially assigned staff to help you find appropriate work placements.
217. If you are worried about your work, you should see a study counselor.
218. Most of the student advisors are extremely helpful.
219. The professor took a year off to work on her book.
220. Before submitting the paper, your thesis must be approved by your tutor.
221. There are lots of opportunities available for the student on campus.
222. I didn't understand the author's point of view on immigration.
223. I found a large rock and I broke through the basement window.
224. If you forgot your student number, you should contact Jenny Brice.
225. In English, the month of the year is always capitalized.
226. In Europe, the political pressure is similar regarding globalization.
227. It is important to take gender into account when discussing the figures.
228. John went rushing off down the corridor.
229. Meteorology is a detailed study of earth's atmosphere.
230. No more than four people can be in the lab at once.
231. On this project, you will be asked to work as a group of three.
232. She was always here, but today she is missed.
233. Students must observe lab safety regulations at all time.
234. Students should take advantage of the online resources before attending the lecture.
235. The agricultural sector in that country has been heavily subsidized.
236. The bookshop is located at the north of main campus.



237. The clear evidence between brain events and behavioral events is fascinating.
238. The lecture tomorrow will discuss the educational policies in the United States.
239. The Psychology Department is looking for volunteers to be involved in research projects.
240. The research paper should begin with a thorough review of the literature.
241. The seminar on writing skills has been cancelled.
242. The thoughts never cross my mind.
243. There is no entrance fee for tonight's lecture.
244. There is varying plagiarism across different university departments.
245. There will be a guest lecturer visiting the psychology department next month.
246. This lecture was meant to start at 10.
247. Try to explain how your ideas are linked so that there is a logical flow.
248. You must take 3 core and 2 elective courses in this semester.
249. Our class is divided into two groups. You come with me, the others stay here.
250. In our city, students have access to thirteen college libraries.
251. Please sort and order the slides of the presentation according to topic and speech time.
252. Hypothetically, insufficient mastery in the areas slows future progress.
253. Please explain what the author means by sustainability.
254. You can retake the module if your marks are too low.
255. The lecture management in Japan will take place in the week seven.
256. During that period, heavy industry grew rapidly in the north of the country.
257. Higher fees cause the student to look more critically at what universities offer.
258. She doesn't even care about anything but what is honest and true.
259. The study of archaeology requires intensive international fieldwork.
260. That country's economy is primarily based on tourism.



261. Leading scientists speculate that numerous planets could support life forms.
262. He is almost never in his office.
263. Chapter one provides the historical background to the topic.
264. The US ranks twenty-second in foreign aid, given it as a percentage of GDP.
265. The verdict depends on which side was more convincing to the jury.
266. Anatomy is the study of internal and external body structures.
267. The tutor is there for help, so do ask if you don't understand anything.
268. To understand its entity, we need to go back to its origin.
269. Interpreters are not readily available in this department.
270. Most supermarkets in this country sell a range of organic products.
271. They are collecting information in preparation for the future talk.
272. We know that dolphins use sound to communicate with each other.
273. The patients were observed over a period of several months.
274. A moderate earthquake struck the United States early on Saturday.
275. Have you talked to your parents about the problems you're having?
276. The job encompasses a wide range of responsibilities, so it is very challenging.
277. I was overwhelmed with too much irrelevant information.
278. I could not save my work as my computer got crashed.
279. People with an active lifestyle are less likely to die early or to have a major illness.
280. The first person in space was from the Soviet Union.
281. Basketball was created in 1891 by a physician in physical structure.
282. The program depends entirely on private funding.
283. There will be open book exams on Monday the 28th.
284. In consultation with your supervisor, your thesis is approved by the faculty committee.



285. Many health workers think that pensioners are too old to understand.
286. Many students are so scared of writing essays, because they never learned how.
287. A demonstrated ability to write clear, correct and concise English is bigotry.
288. Residence Hall is closed prior to the academic building closing time in the semester.
289. The library is located at the other side of the campus behind the student center.
290. A preliminary bibliography is due the week before the spring break.
291. Answering such a complex question with a simple yes or no is absolutely impossible.
292. A periodical is a publication that is issued regularly.
293. New York City is famous for its ethnic diversity.
294. The mismatch between the intended and reported uses of the instrument has become clear.
295. Students can get access to computers on a daily basis.
296. Professor Smith will be late for today's lecture.
297. The United Kingdom is a constitutional monarchy and parliamentary democracy.
298. We will discuss these two pictures in next lecture.
299. We are not going to accept the assignment after the due date on Friday.
300. The student welfare officer can help with questions about exam techniques.
301. A lot of agricultural workers came to the East End to look for alternative work.
302. Knife and fork should be placed next to the spoon on the edge of the table.
303. This part of the story is the story of my father.
304. Graduates from this course generally find jobs in the insurance industry.





305. The support and advice of lecturers within the department has been invaluable.
306. At the end of the day, people want to profit from return on their investment.
307. A balanced diet will help you study more effectively.
308. Our capacity to serve the community is a vital part of our role.
309. The university hosts a wide range of events both on and off campus.
310. I think that to raise the issue and to talk about it is great.
311. This will be the first art exhibition to be held by the university.
312. The assessment of this course will begin next week.
313. Tomorrow's lecture has been canceled due to the power cut.
314. Many experts think that the world climate is changing.
315. The cafeteria is open on Monday and Thursday.
316. Students can borrow this book for a maximum of one day.
317. The bibliography needs to be removed prior to the publication.
318. Eating a healthy breakfast can provide energy throughout the day.
319. The capacity of programming computers is expanding enormously every year.
320. The paper has the potential to transform life science.
321. Tuesday is the final day for students to submit their assignments without any penalty.
322. Please note, submission deadlines are only negotiable in exceptional circumstances.
323. Sleep is believed to play a critical role in storing memories.
324. The college operates on a system of continuous assessments.
325. Students' papers should be about a current social issue.
326. The key findings seem to contradict our initial hypothesis.
327. All laboratory equipment will be provided in class.
328. Scientists have found all parts of science.

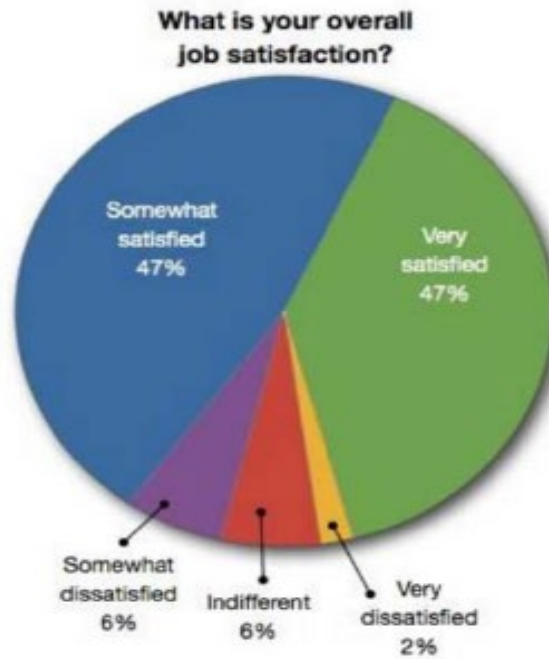


329. Key aspects of this investigative paradigm may prove useful in other spheres.
330. It's a great privilege to welcome our guest speaker to our college.
331. Tomorrow evening, there will be a panel discussion on sustainable development.
332. Animal behavior appears to contain both similar and distinct aspects to that of humans.
333. There is a fitness center next to the student union.
334. What's going on that can help patients leave their fears at the door.
335. Each group should submit a rough outline of their project to their tutor.
336. These developments are discussed in more depth in Chapter nine.
337. The professor plans to discuss issues in the news that reflect concepts taught in class.
338. I have lectures on Tuesday from nine o'clock until two o'clock.
339. Speaking one or more foreign languages will be useful in your career.
340. One of the first mass transit systems was located in France.
341. All the works you consult need to be mentioned in the bibliography.
342. Newspapers across the country have been reporting stories of the president.
343. Even with the permit, finding a parking spot on campus is almost impossible.
344. The verdict depends on which side is more convincing to the jury.
345. Unfortunately, the two most interesting economic electives clash with my timetable.
346. To answer such a complex question with a simple yes or no is absolutely impossible.
347. The older equipment has been put at the back of the building.
348. Being a vegan means not consuming any animal product.
349. We must put great care when analyzing data.
350. All undergraduate students should participate in the seminar.

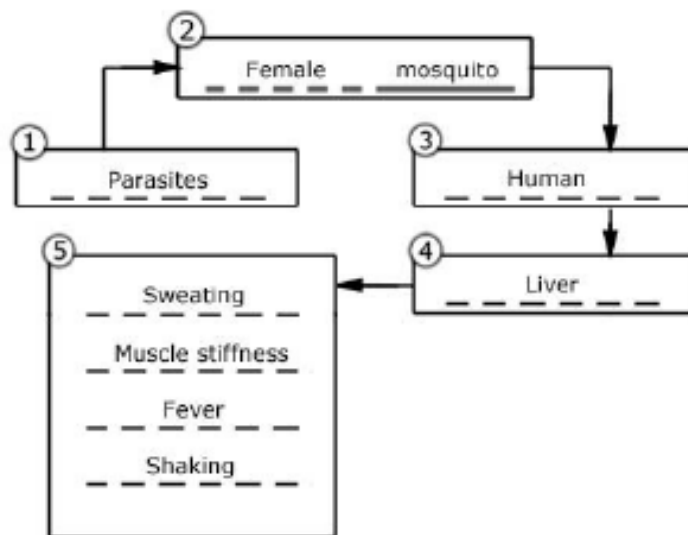


## Describe Image

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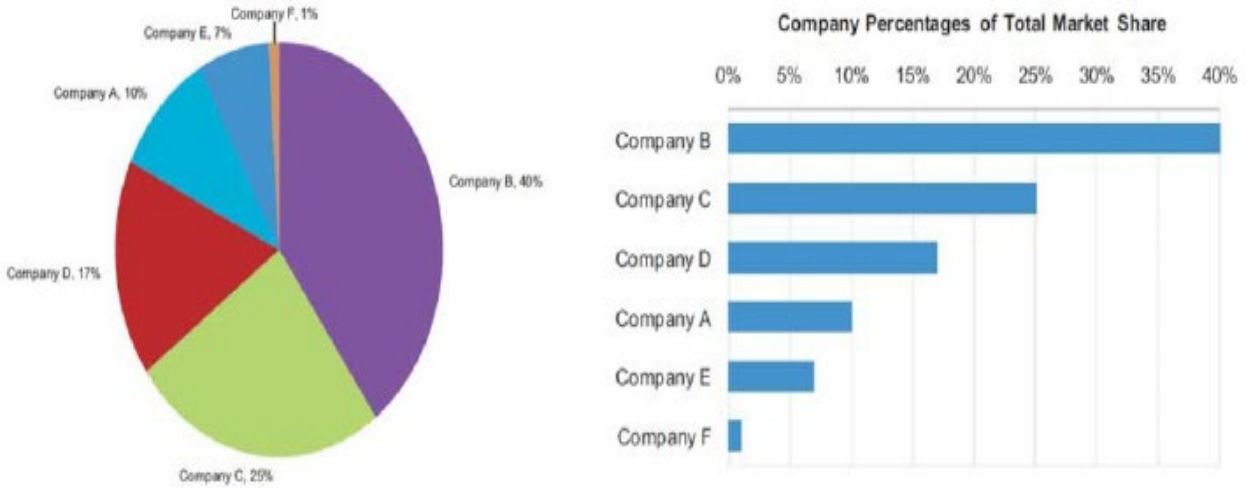


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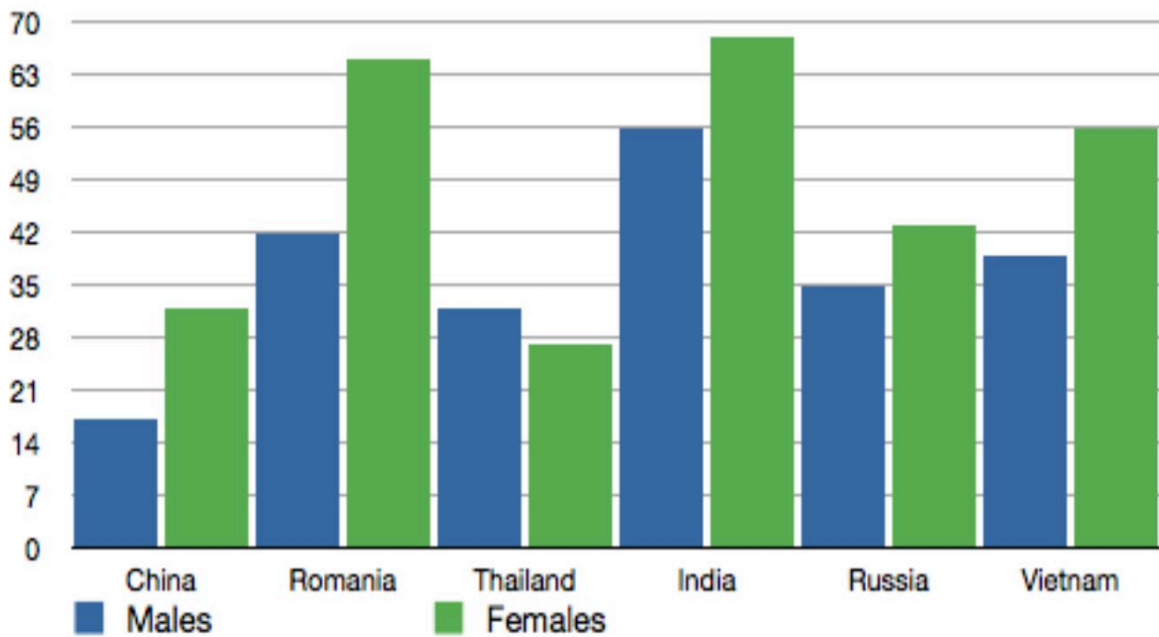


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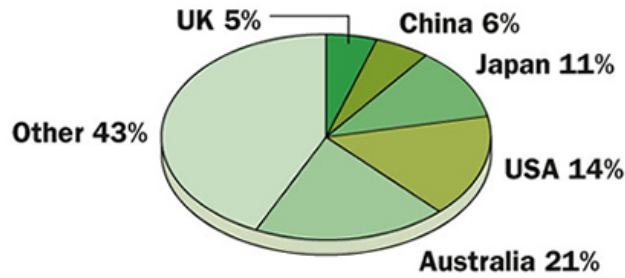
4

**Percentage of students proficient in a foreign language**

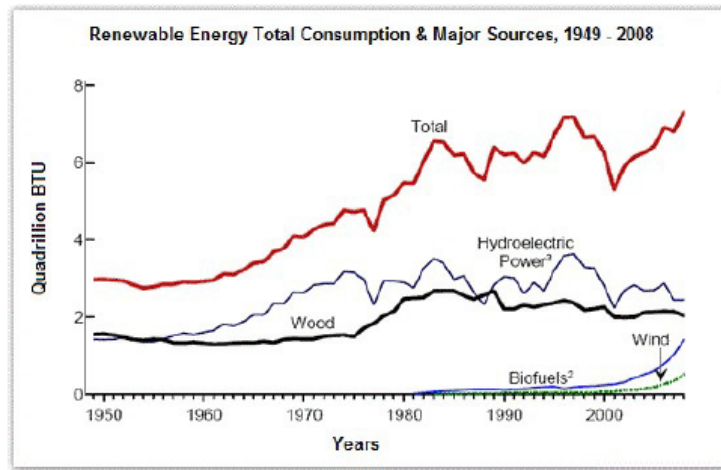




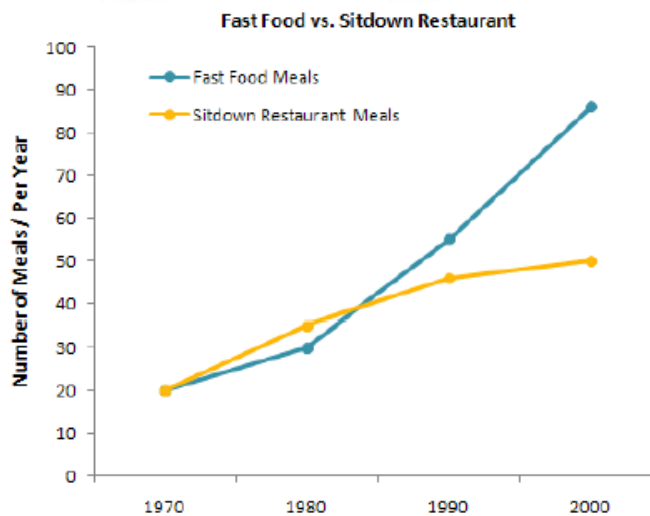
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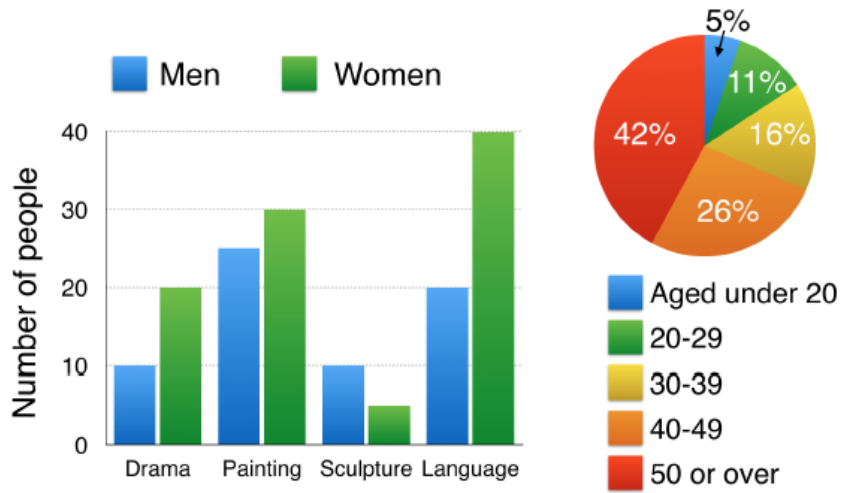


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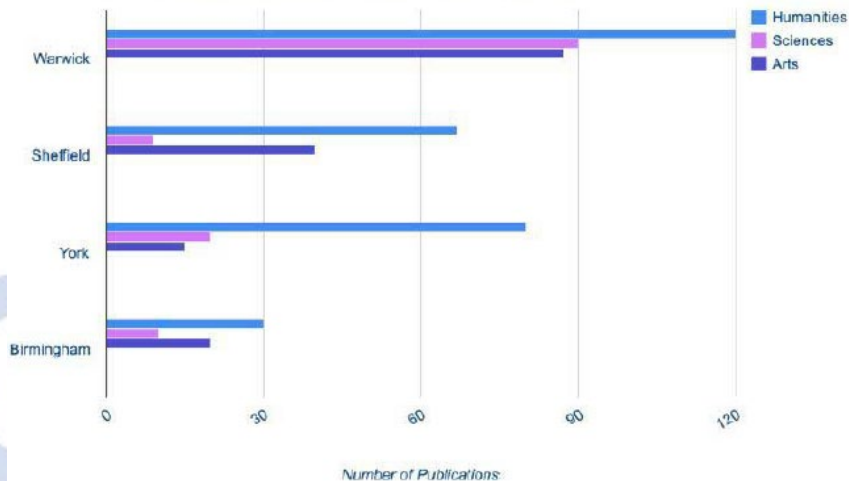


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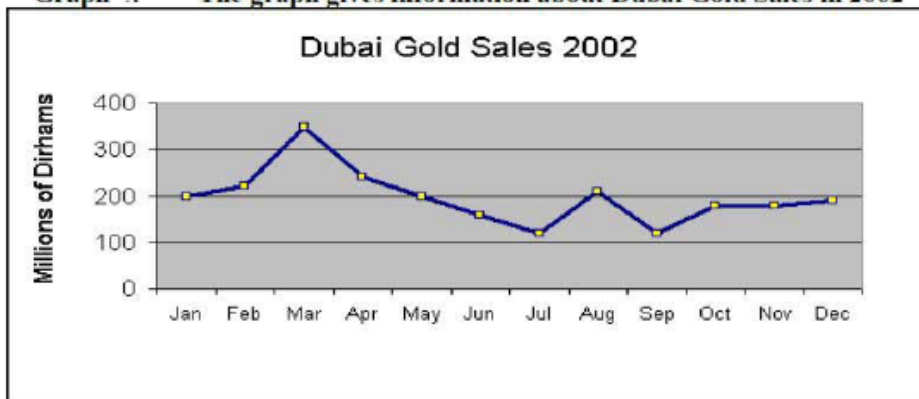
9

Publications by subject area of four universities from 2006 to 2012



10

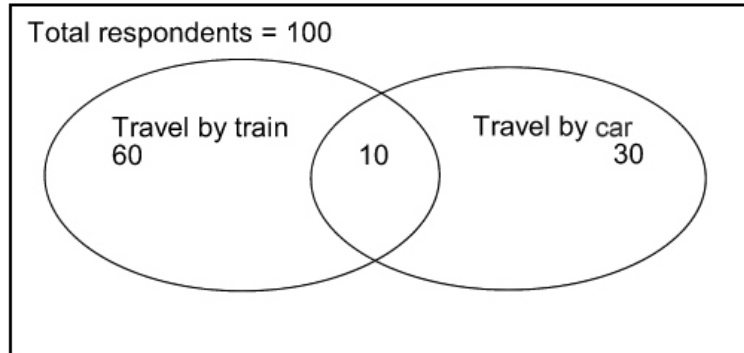
Graph : The graph gives information about Dubai Gold Sales in 2002



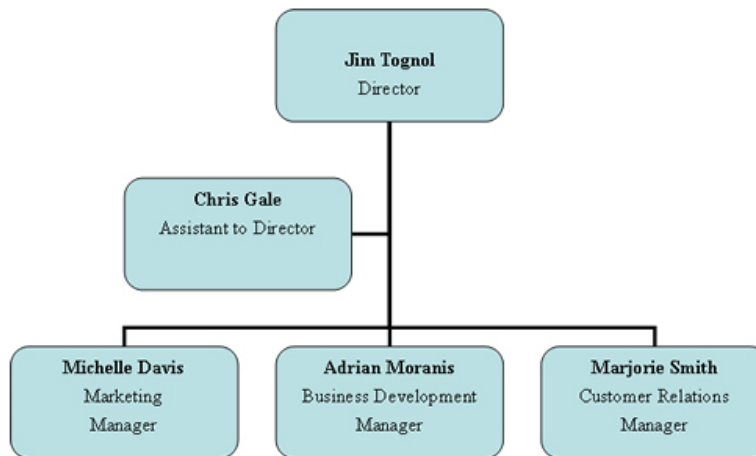




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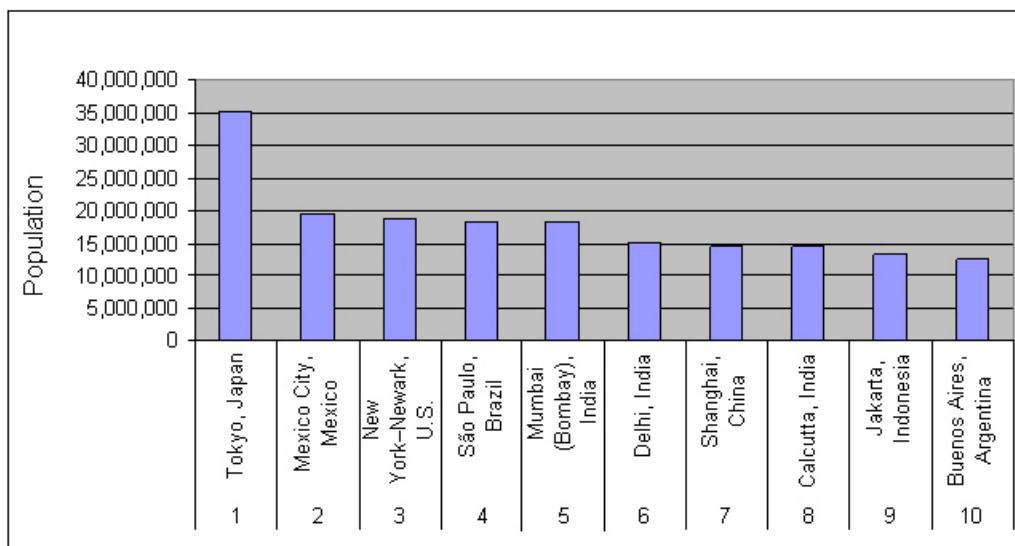


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13

World's Most Populous Urban Regions



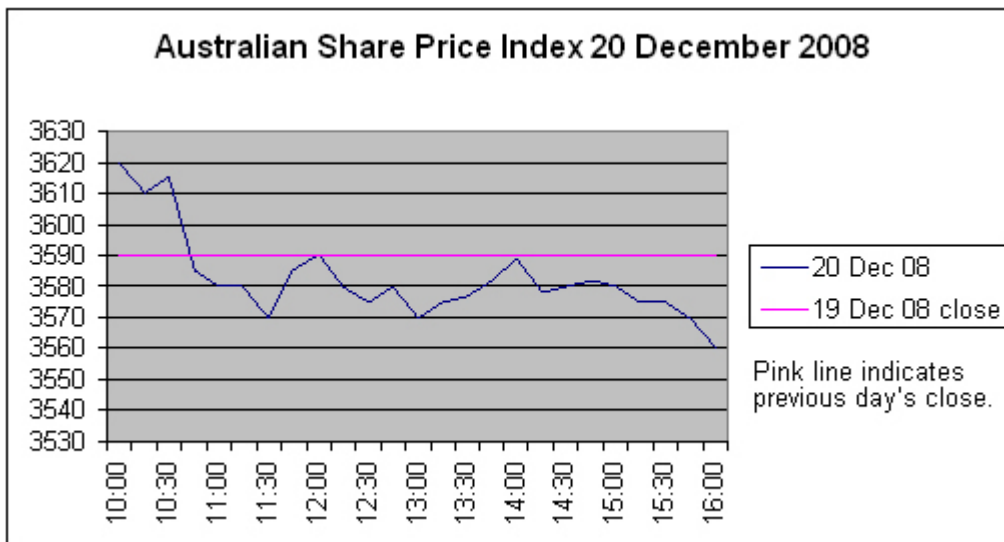


14

### Rankings of Global Cities with the Highest Cost of Living

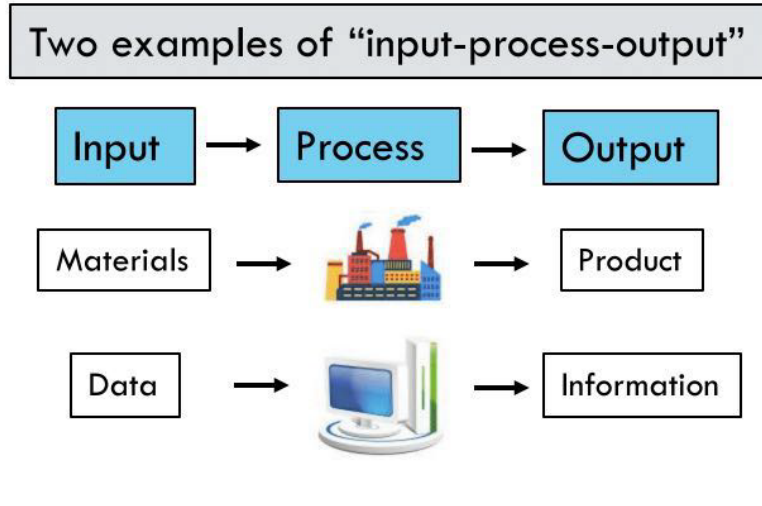
| Rankings |      |                        |
|----------|------|------------------------|
| 2008     | 2007 | City                   |
| 1        | 1    | Moscow, Russia         |
| 2        | 4    | Tokyo, Japan           |
| 3        | 2    | London, United Kingdom |
| 4        | 10   | Oslo, Norway           |
| 5        | 3    | Seoul, South Korea     |

15

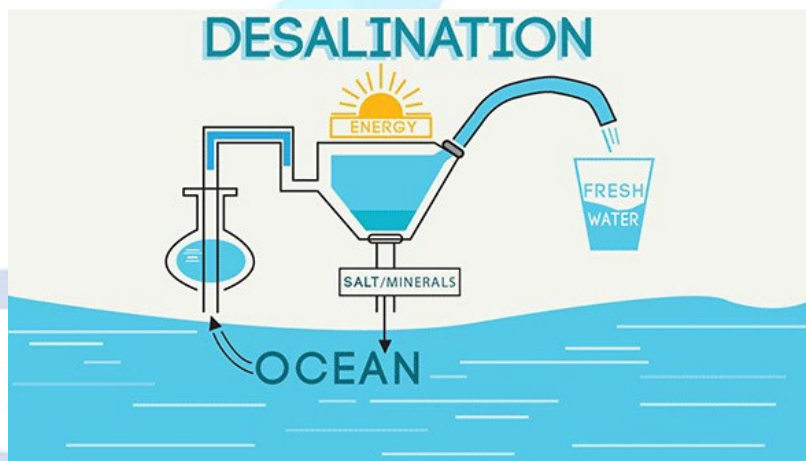




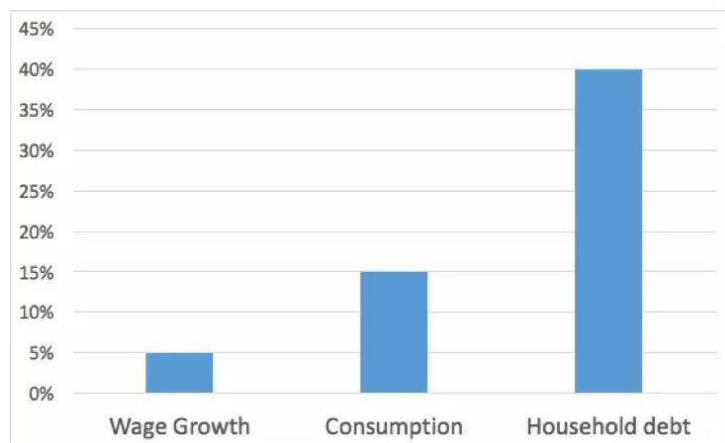
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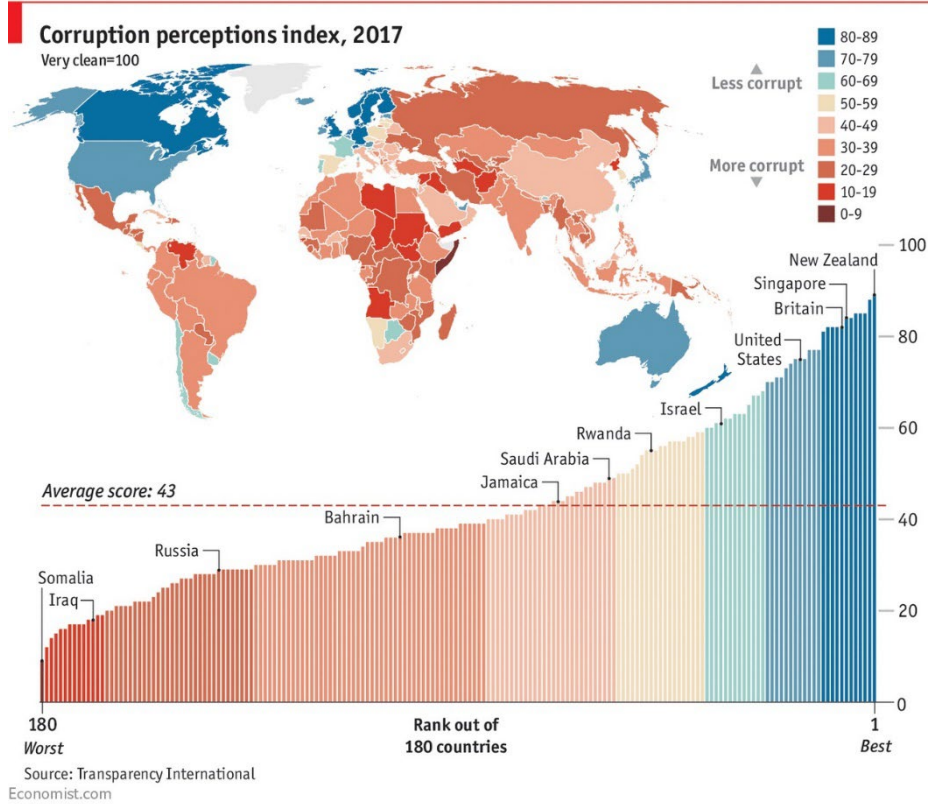


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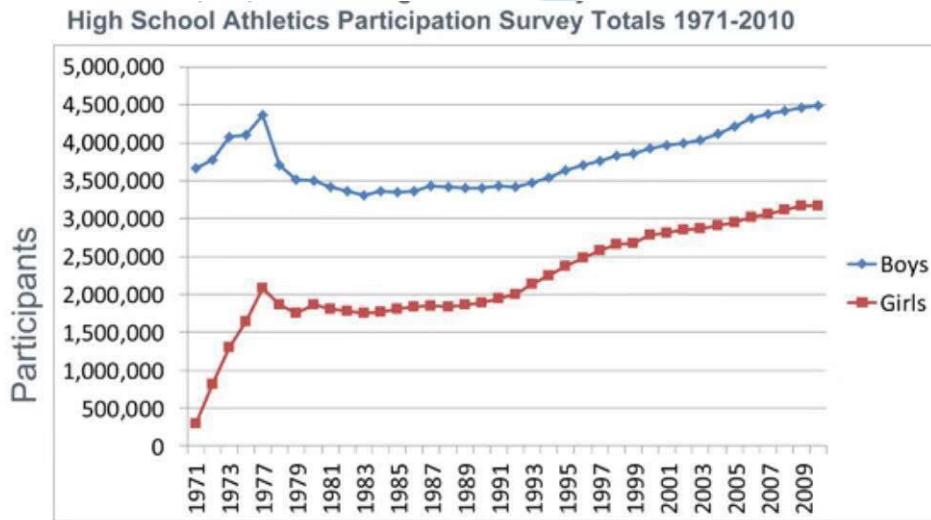




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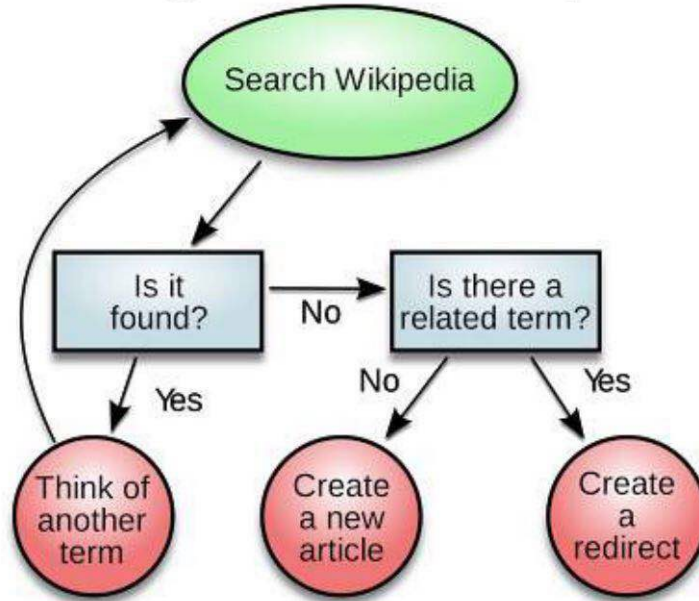
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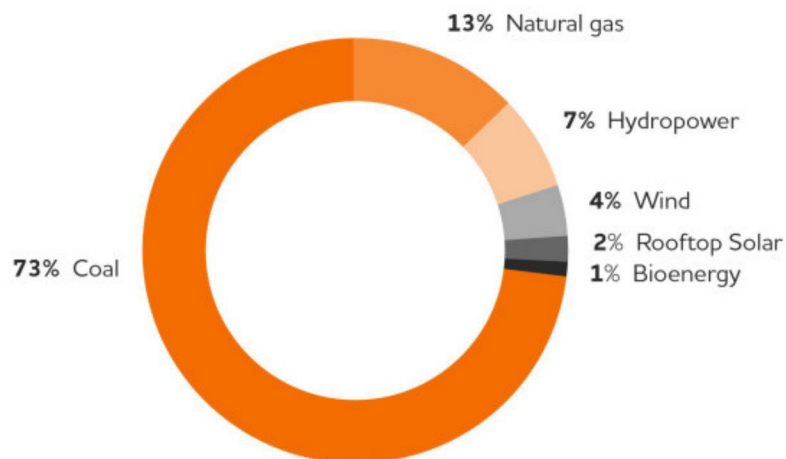
21

### Adding an article to Wikipedia



22

### ELECTRICITY GENERATION ACROSS AUSTRALIA





23

**Increase in the number of dwellings over past 10 years**

| Region      | Dwelling stock |        |                 |                     |
|-------------|----------------|--------|-----------------|---------------------|
|             | Year           |        | Increase number | Percentage increase |
|             | 1994           | 2004   |                 |                     |
| Sydney city | 45,040         | 76,833 | 31,793          | 71                  |

24

| Teaching as a career                         |     |
|----------------------------------------------|-----|
| Final year students who want to be a teacher | 1%  |
| Graduate students working in teaching        | 7%  |
| Employed in teaching field                   | 95% |

25

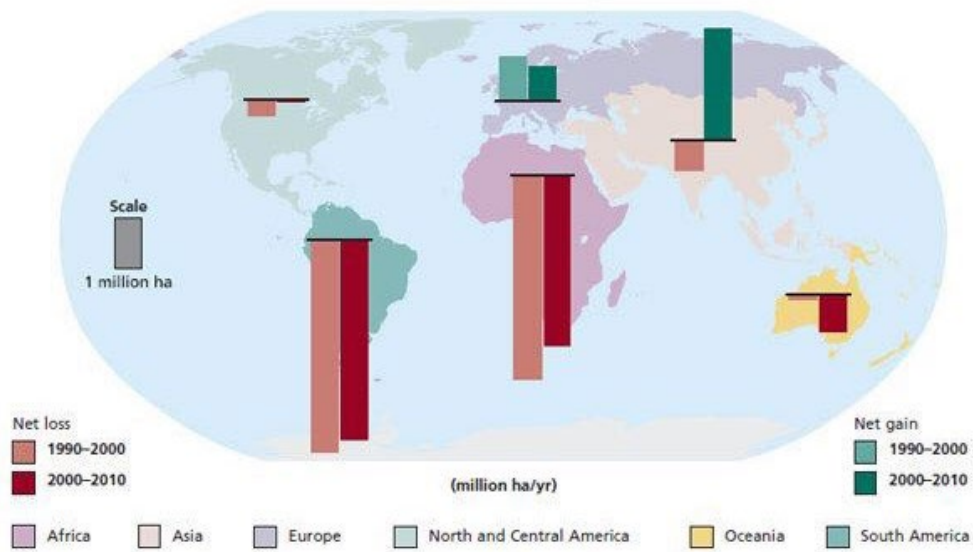
| The Most Common Languages in the World |                               |                                                         |                                                       |
|----------------------------------------|-------------------------------|---------------------------------------------------------|-------------------------------------------------------|
|                                        | LANGUAGE                      | APPROXIMATE NUMBER OF NATIVE SPEAKER( in the year 2000) | COUNTRIES WITH SUBSTANTIAL NUMBERS OF NATIVE SPEAKERS |
| 1                                      | Mandarin Chinese              | 874,000,000                                             | 16                                                    |
| 2                                      | Hind(India)                   | 366,000,000                                             | 17                                                    |
| 3                                      | English                       | 341,000,000                                             | 104                                                   |
| 4                                      | Spanish                       | 322-358,000,000                                         | 43                                                    |
| 5                                      | Bengali(India and Bangladesh) | 207,000,000                                             | 9                                                     |



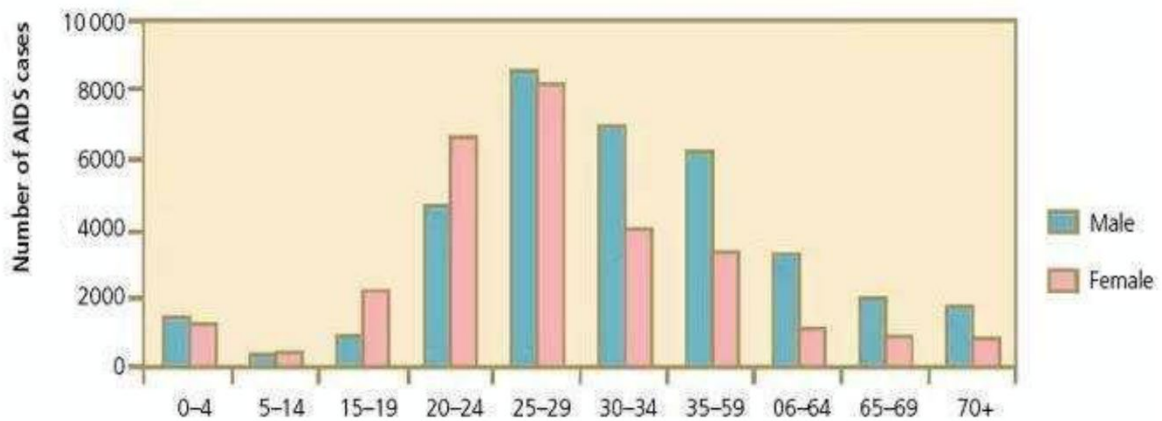


26

Annual change in forest area by region, 1990-2010



27



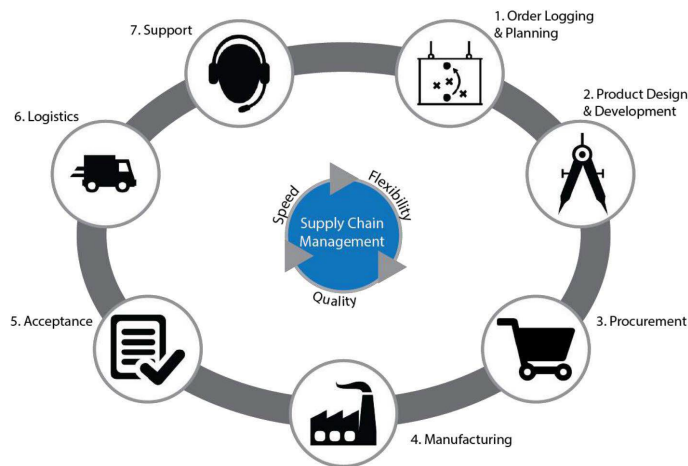


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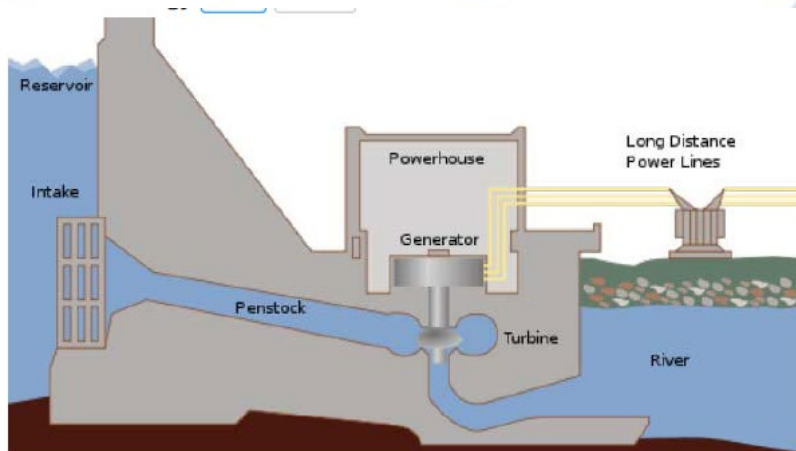
### How Dell does closed-loop recycling



29



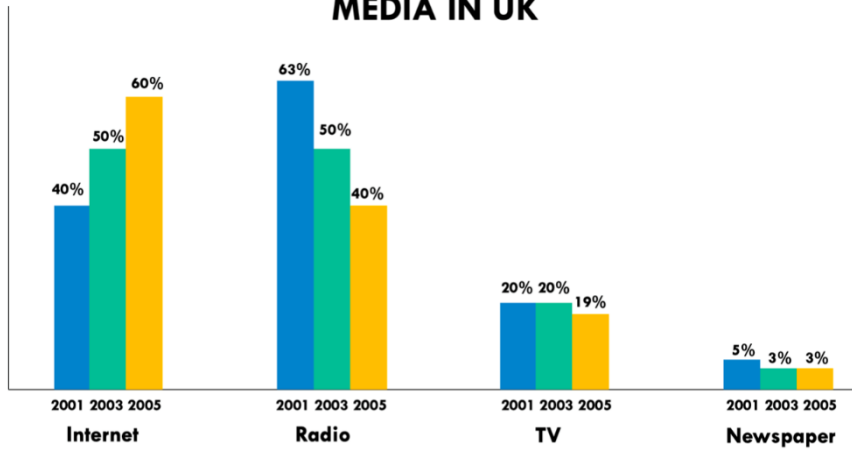
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31

## MEDIA IN UK



32

## CORRECT AND INCORRECT POSTURE

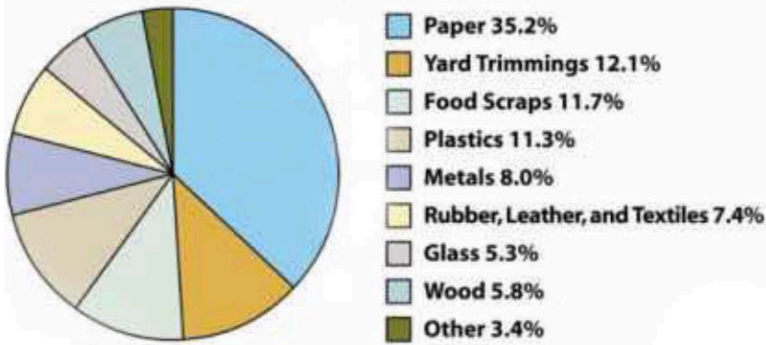
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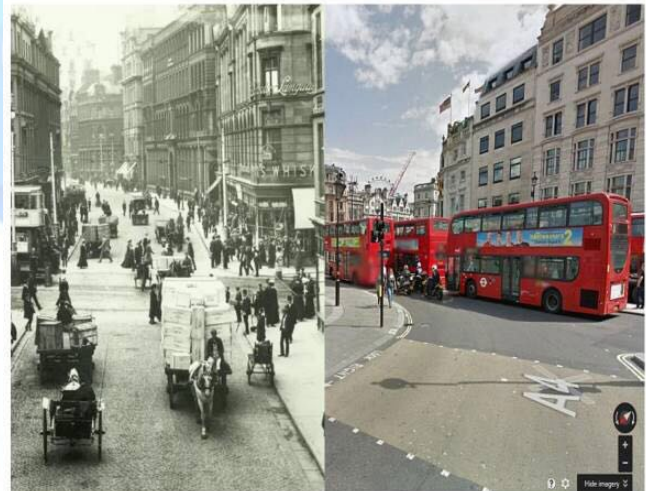
33

## 2003 Total Waste Generation— 236 Million Tons (before recycling)



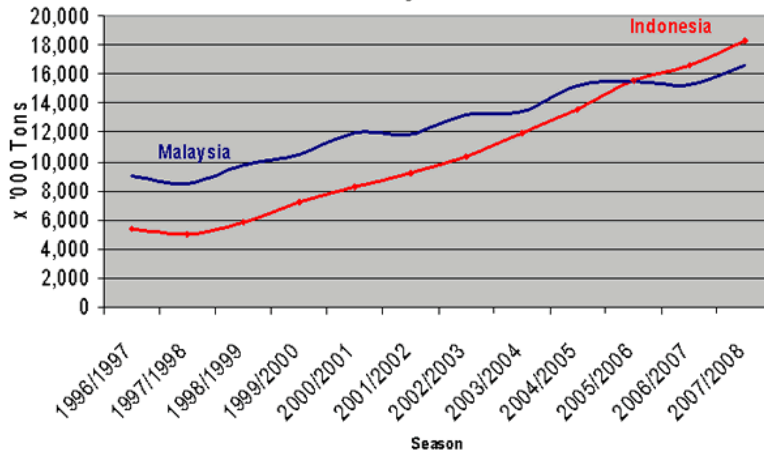
London street views in 19th century and now

34



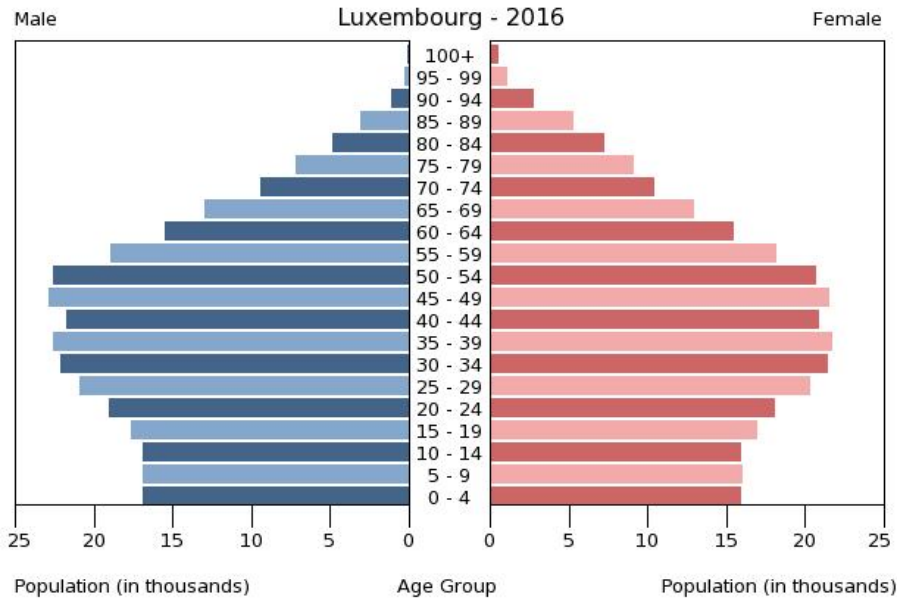
35

Indonesia and Malaysia Palm Oil Production

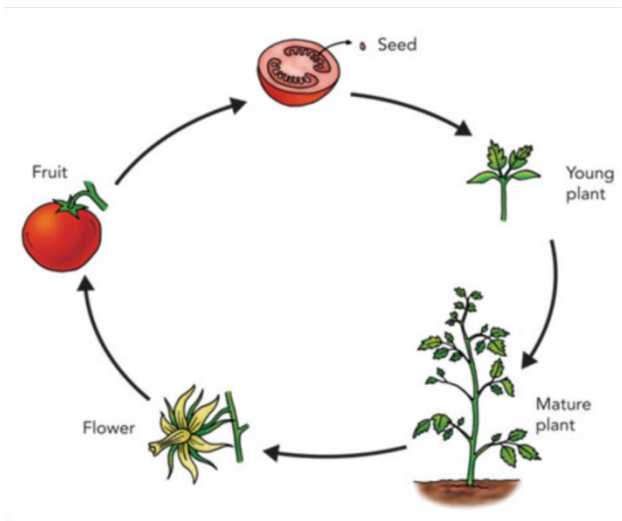




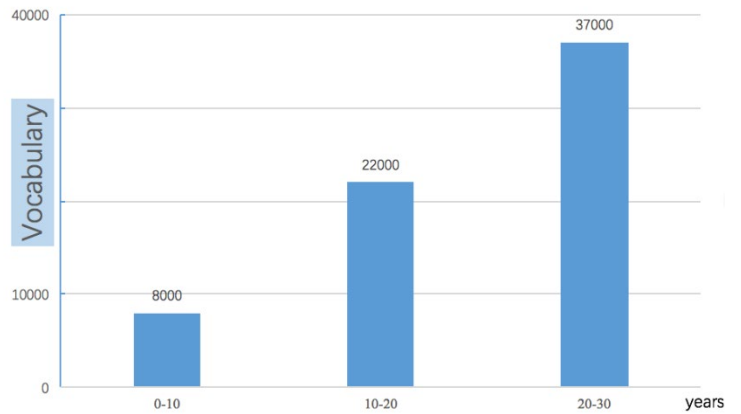
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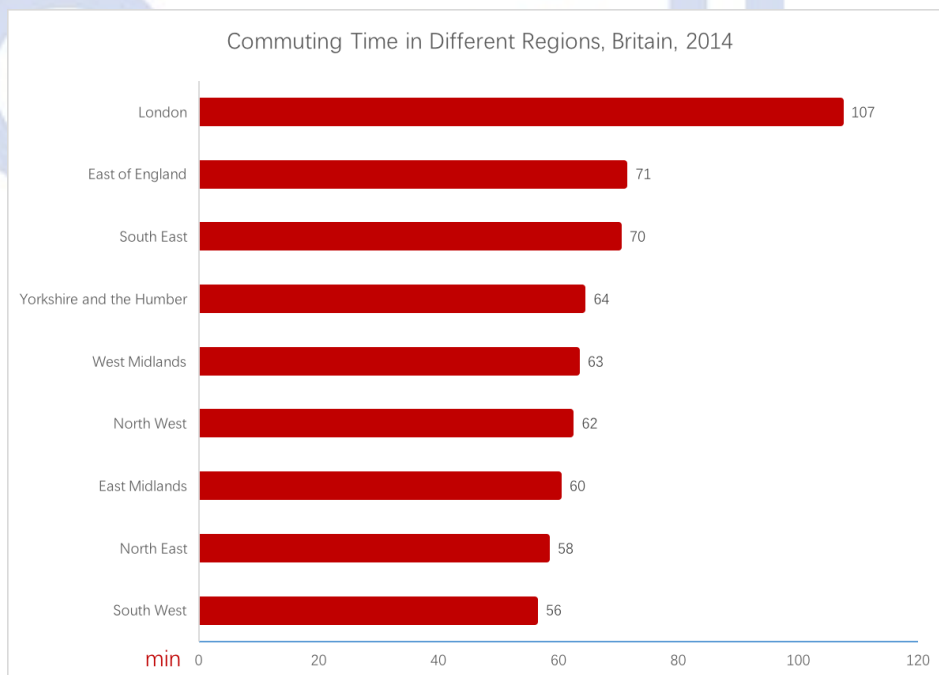




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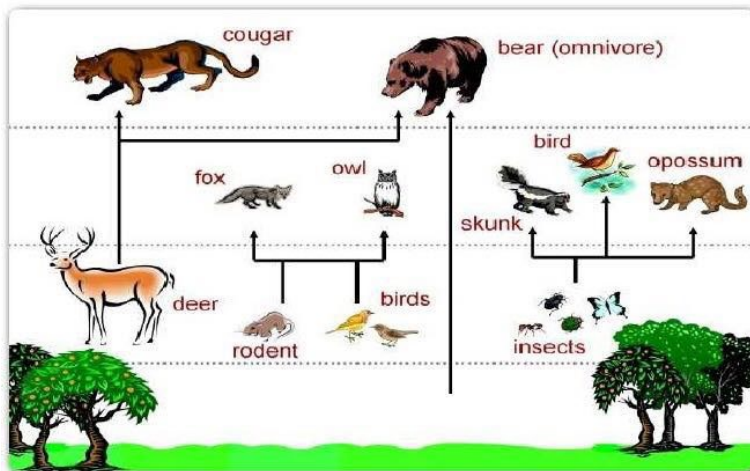






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### Food Web of the Temperate Forest

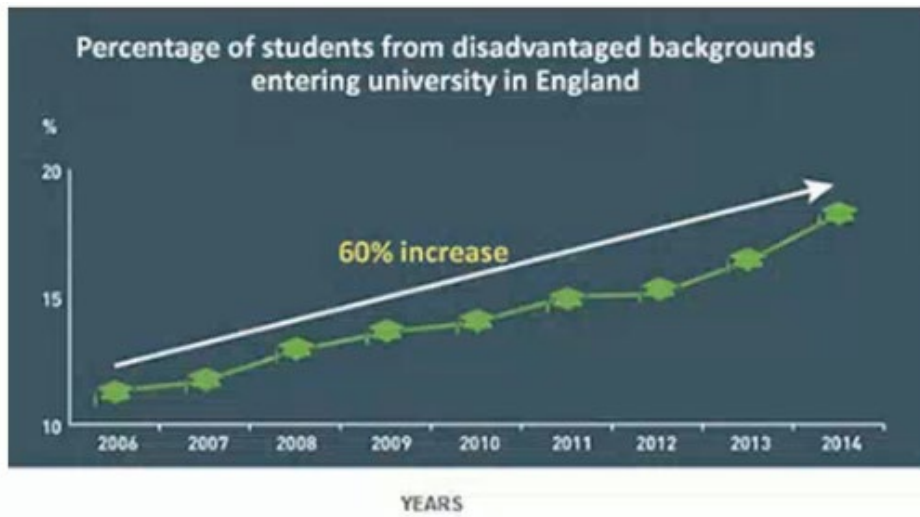


42





43



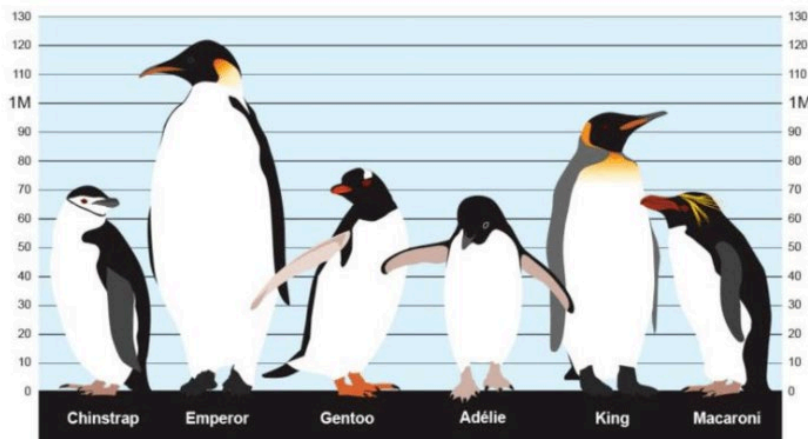
44



Computers then and now



45

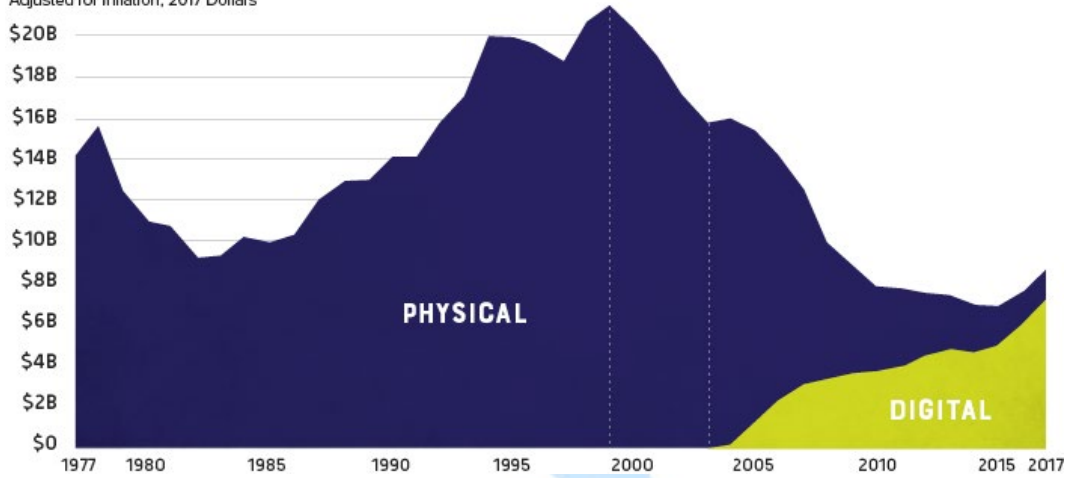




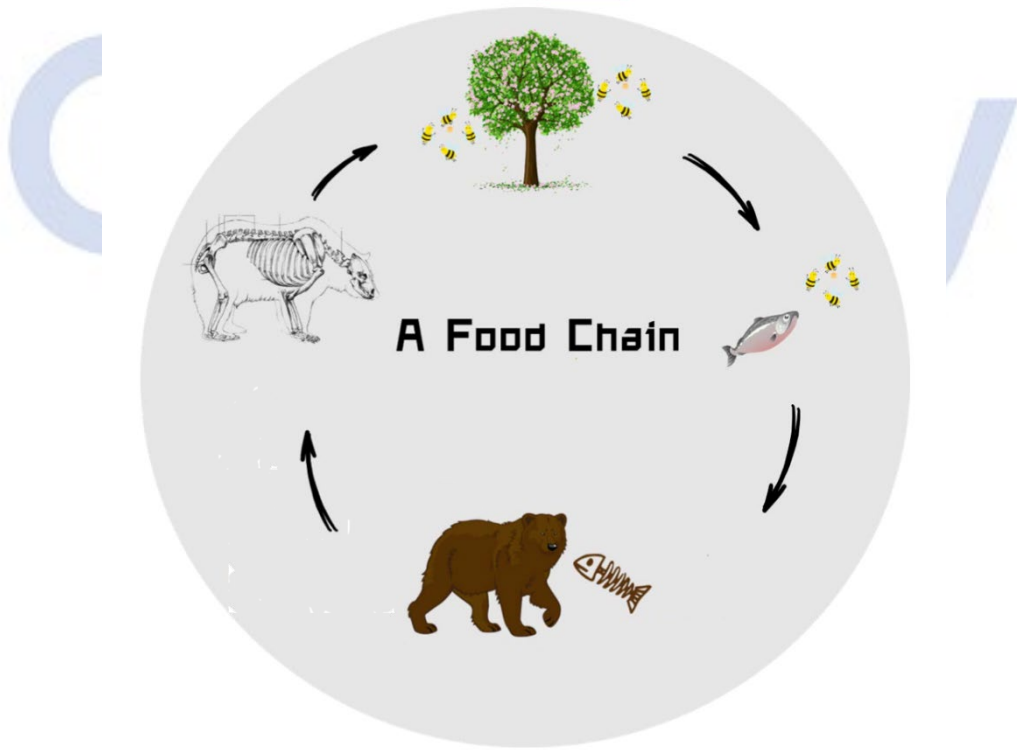
46

## MUSIC REVENUES

Adjusted for Inflation, 2017 Dollars



47

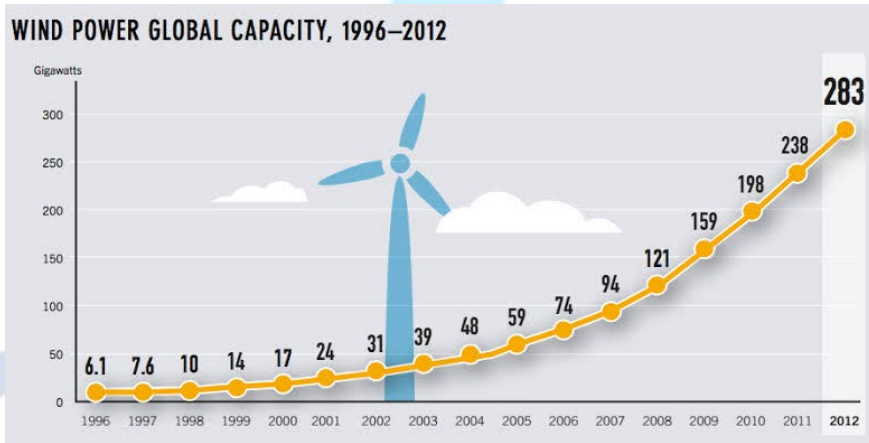




48



49



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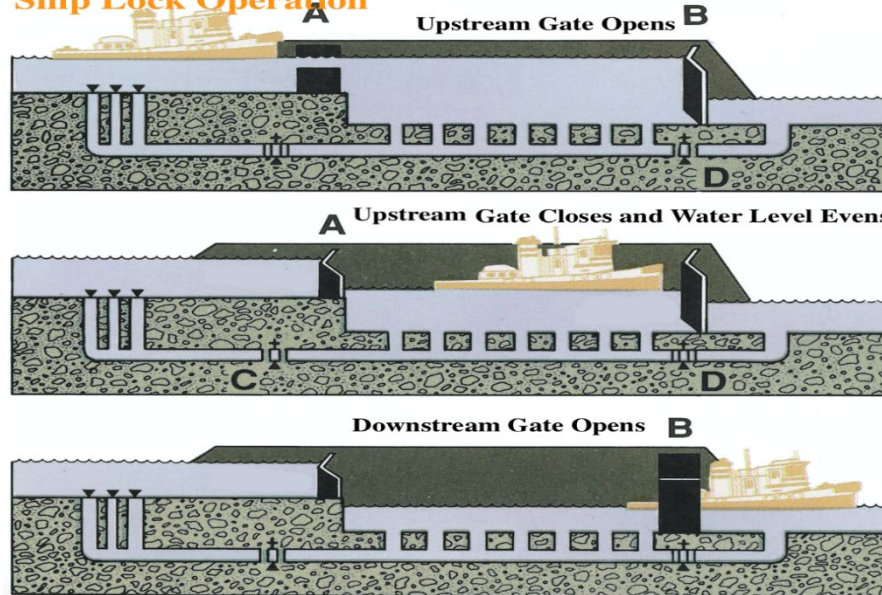




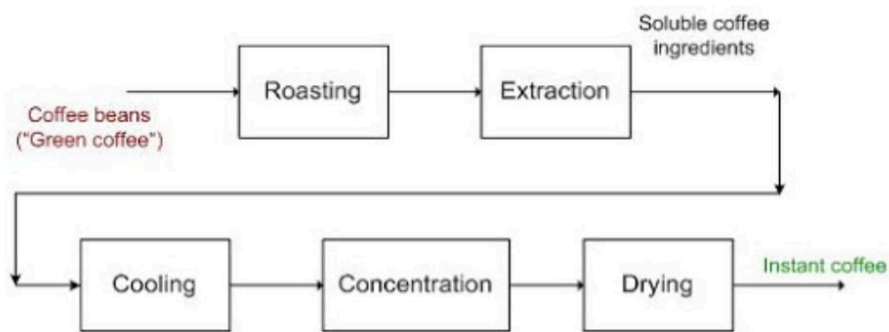


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## Ship Lock Operation

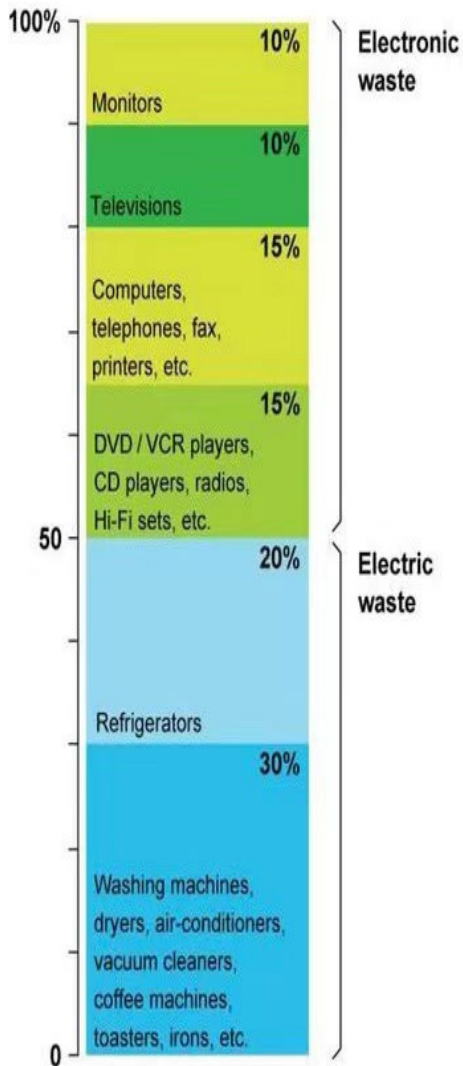


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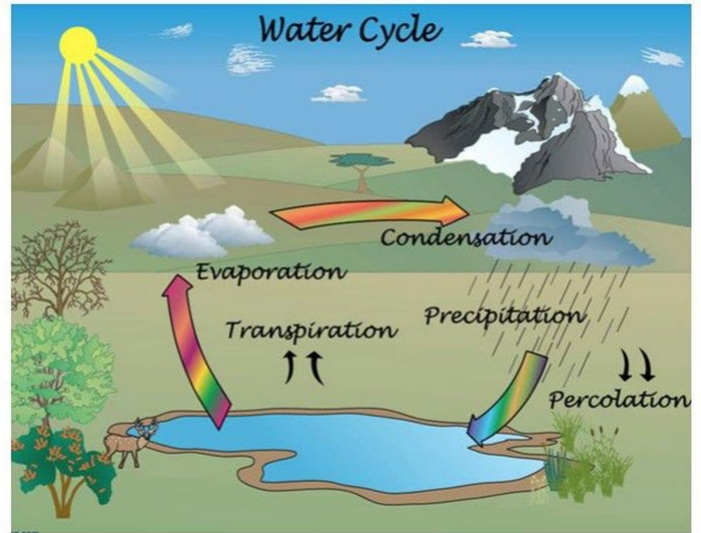




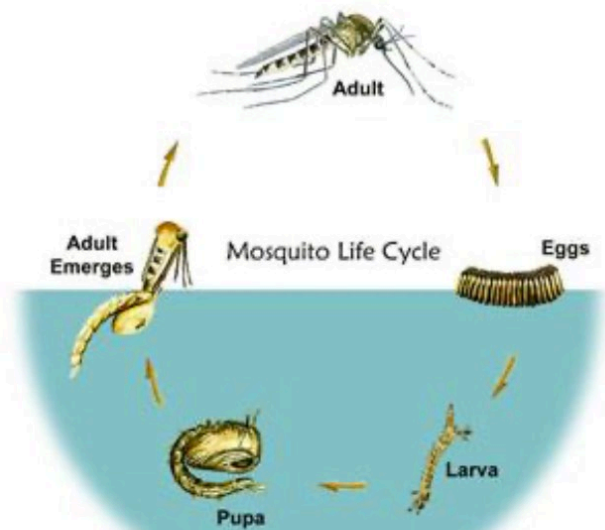
## 53 What is e-waste?



## 54



## 55





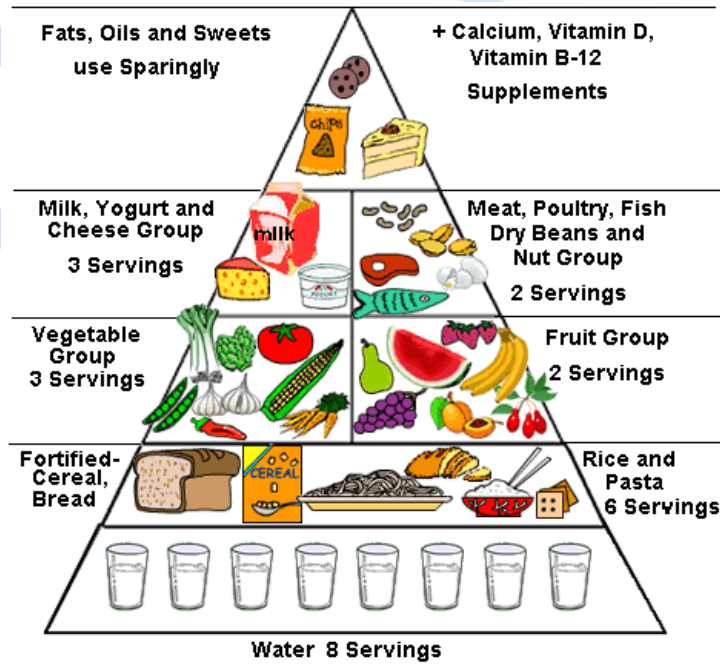


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## Incentives for Salespeople

|                                              |                                                                       |                                                             |
|----------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------|
| <p><b>Salary Plan</b><br/>(fixed salary)</p> | <p><b>Commission Plan</b><br/>(pay in direct proportion to sales)</p> | <p><b>Combination Plan</b><br/>(salary plus commission)</p> |
|----------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------|

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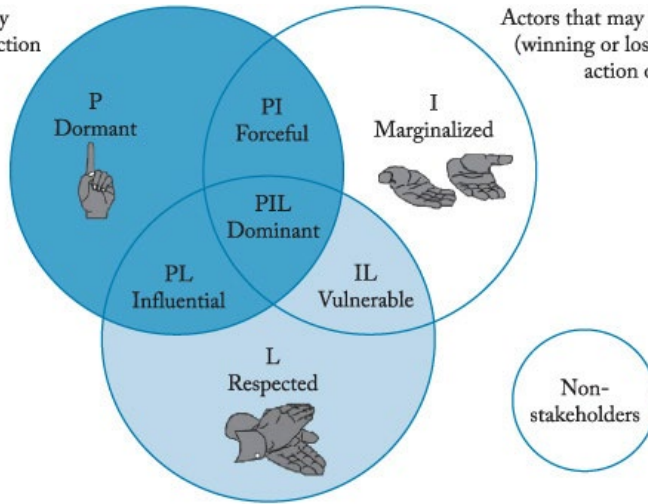




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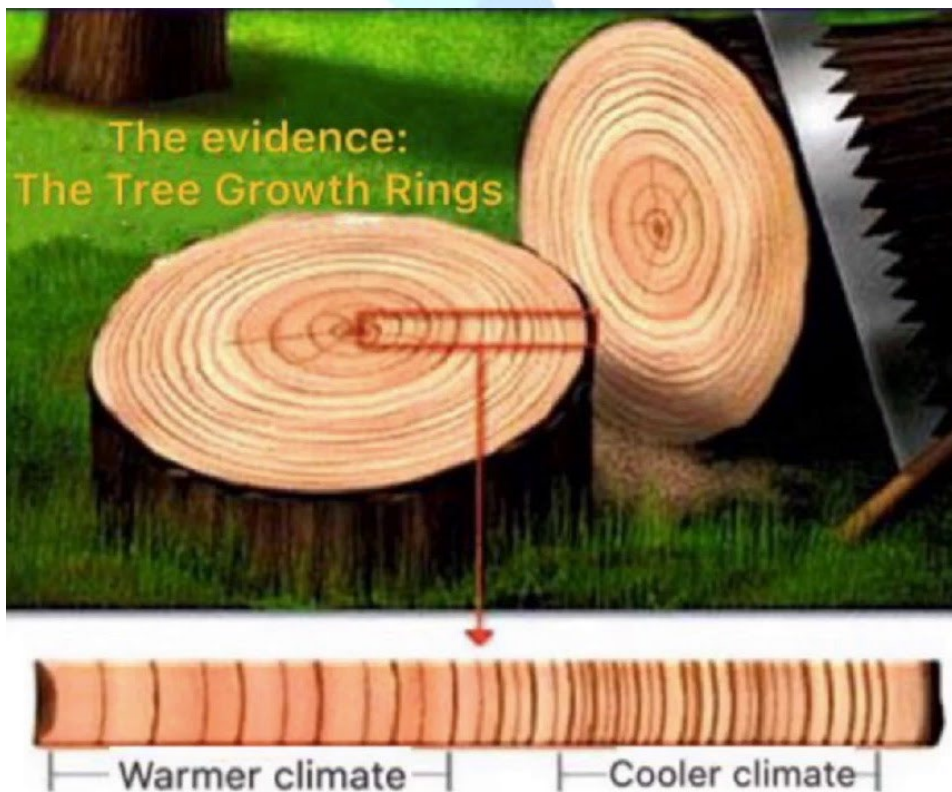
Actors that may influence the action or situation

Actors that may be affected (winning or losing) by the action or situation



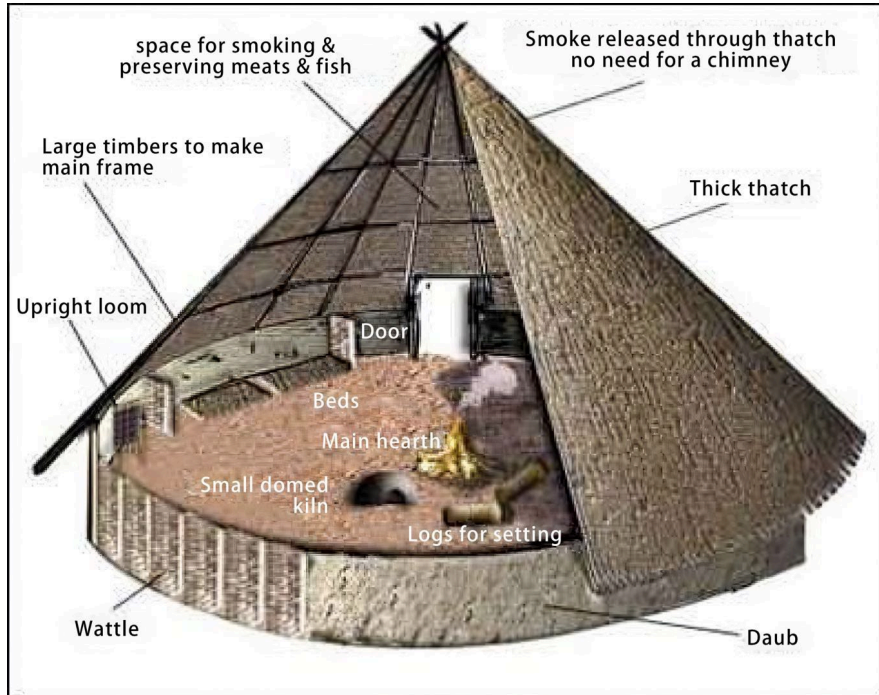
Actors that have recognized rights, responsibilities, and resolve

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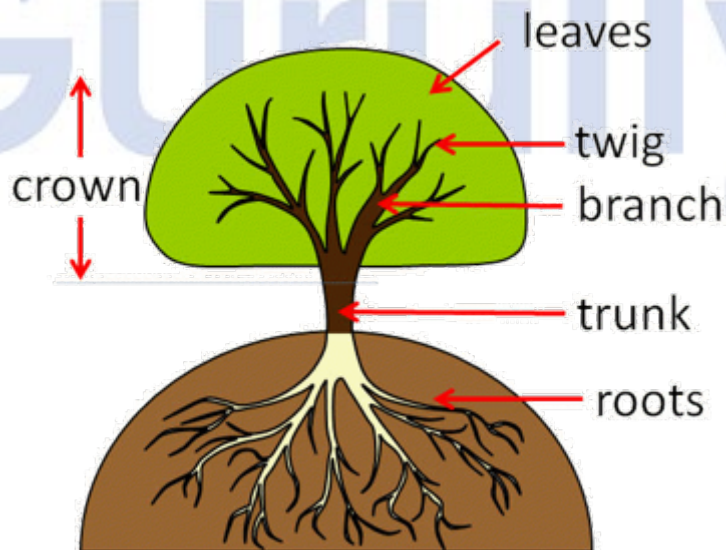




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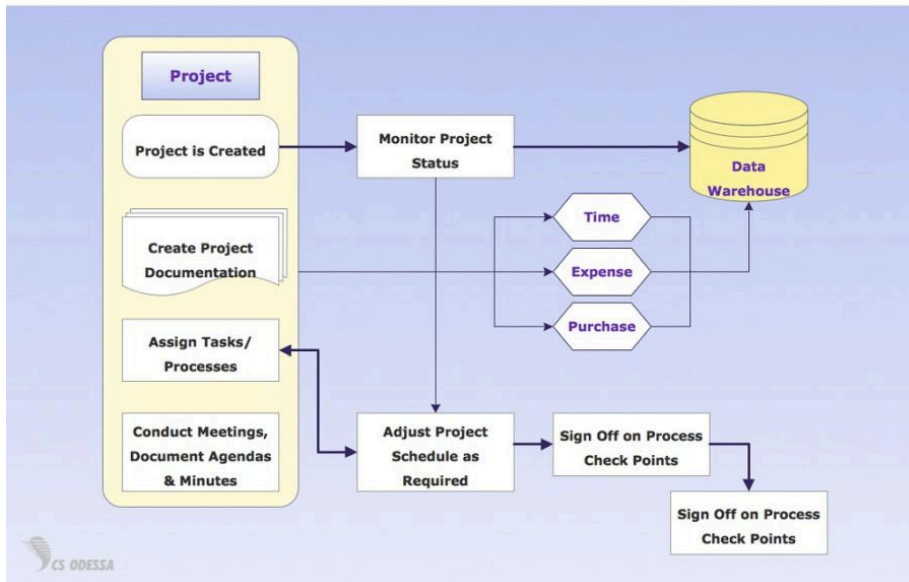
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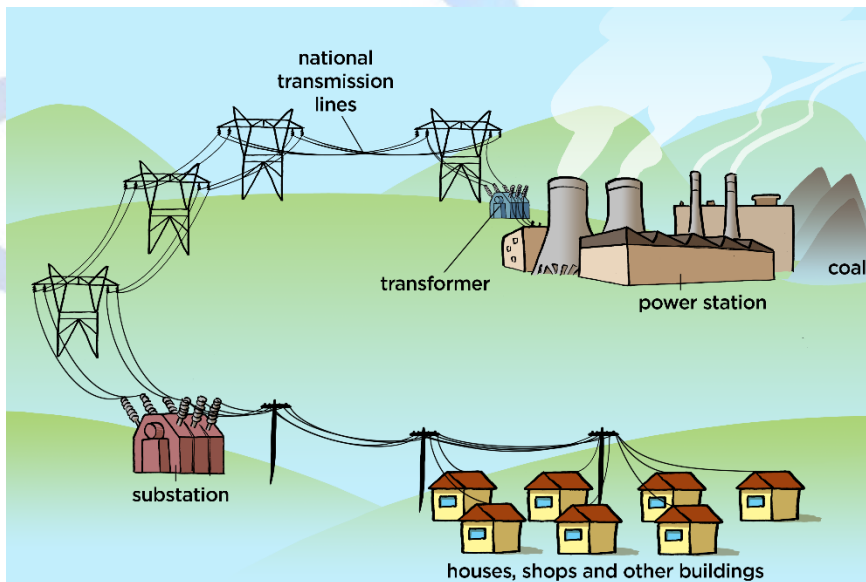


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## Project Management Process Flow Chart

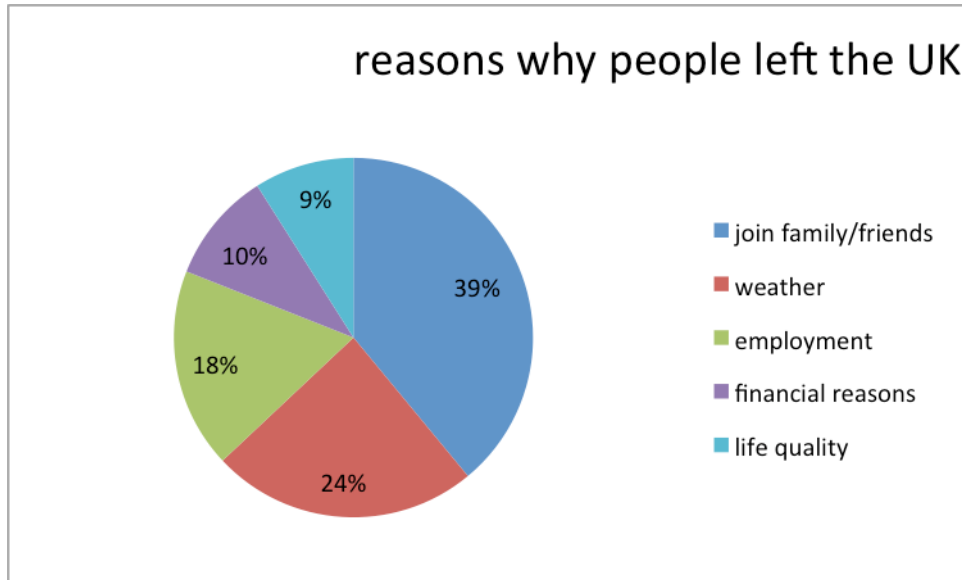


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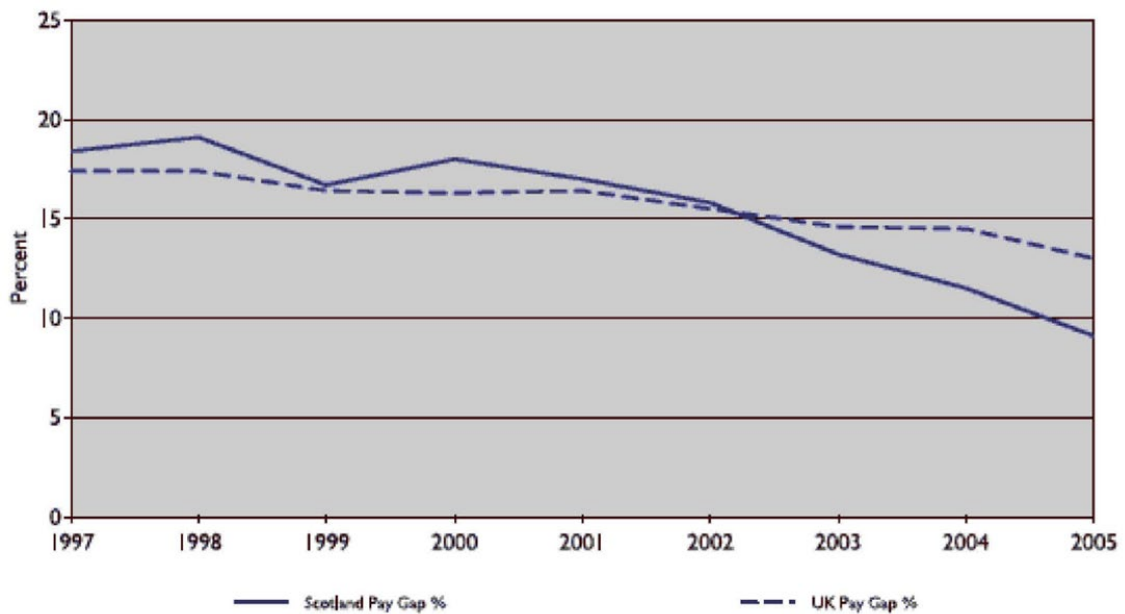




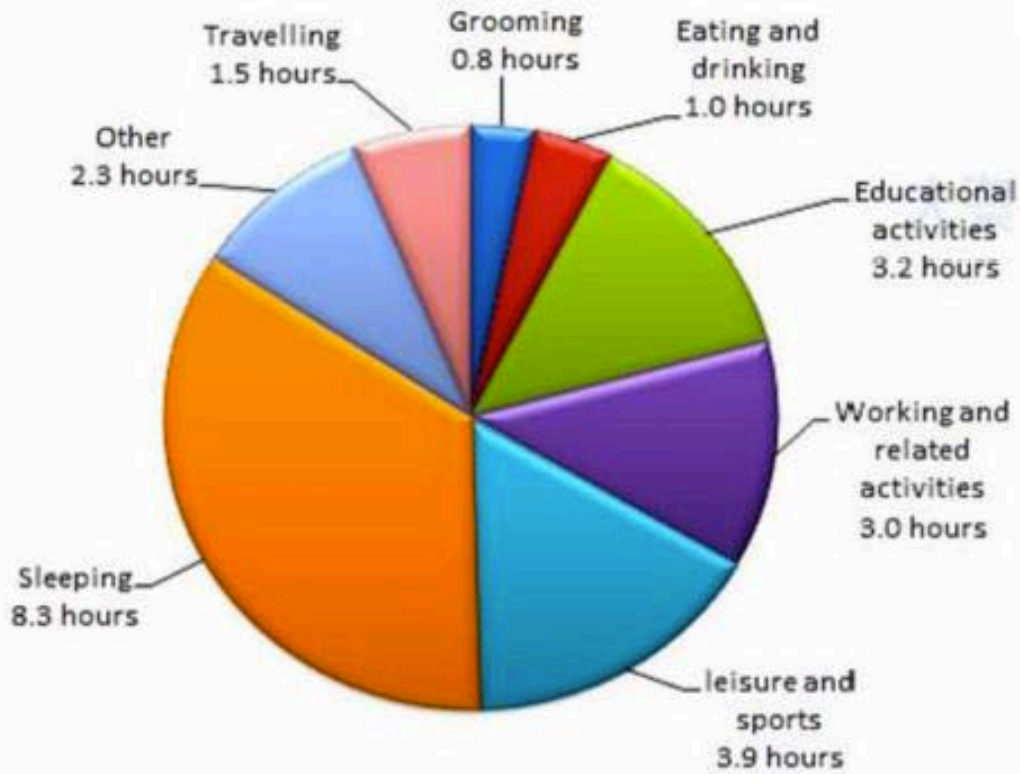
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Data include individuals who were enrolled at a university or college, excluding part-time students. Data include non-holiday weekdays and are averages for 2003-07.

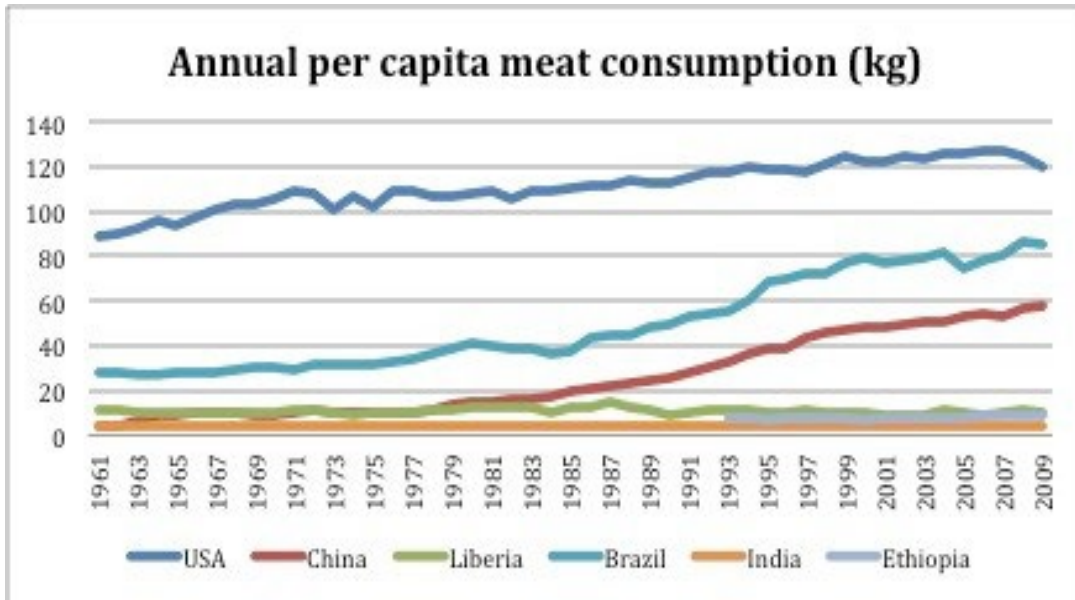
SOURCE: Bureau of Labor Statistics



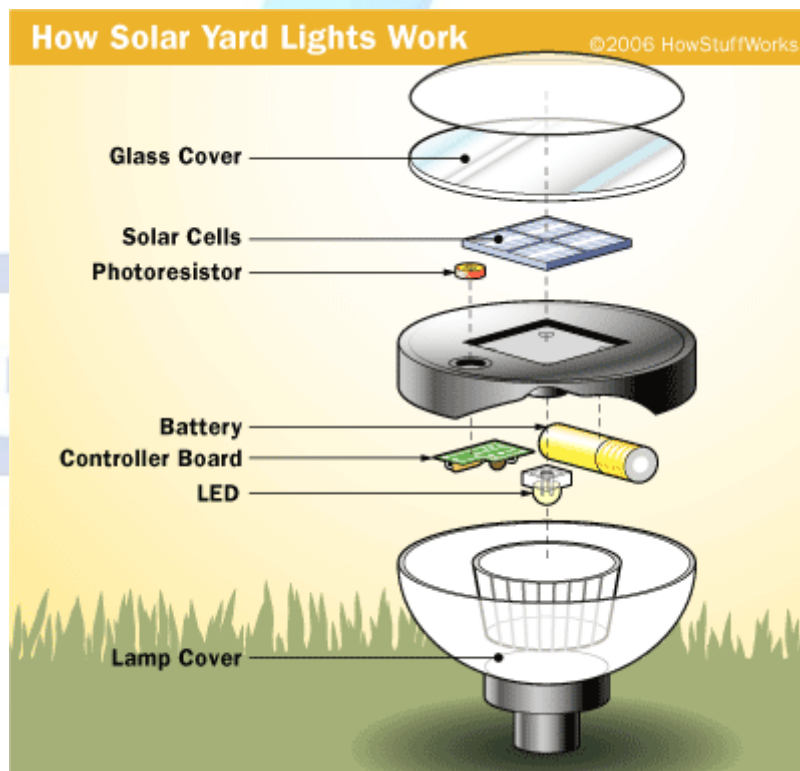




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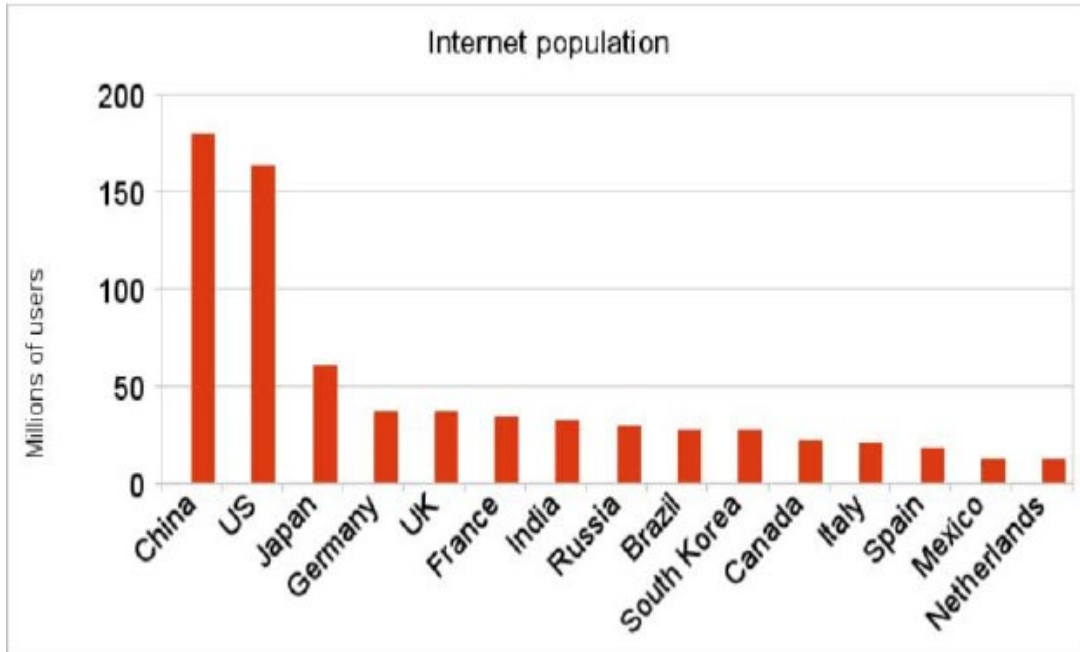


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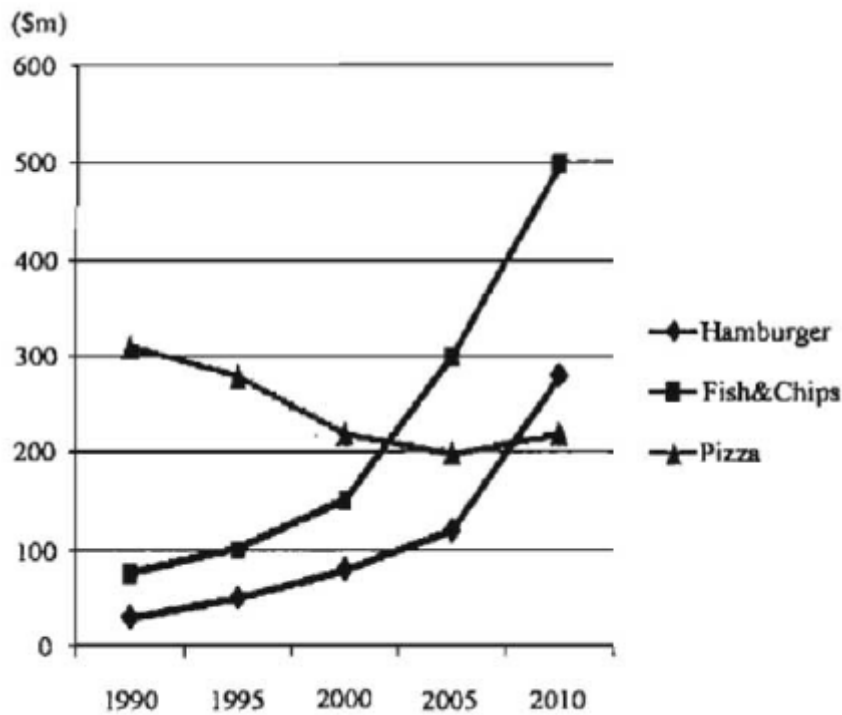




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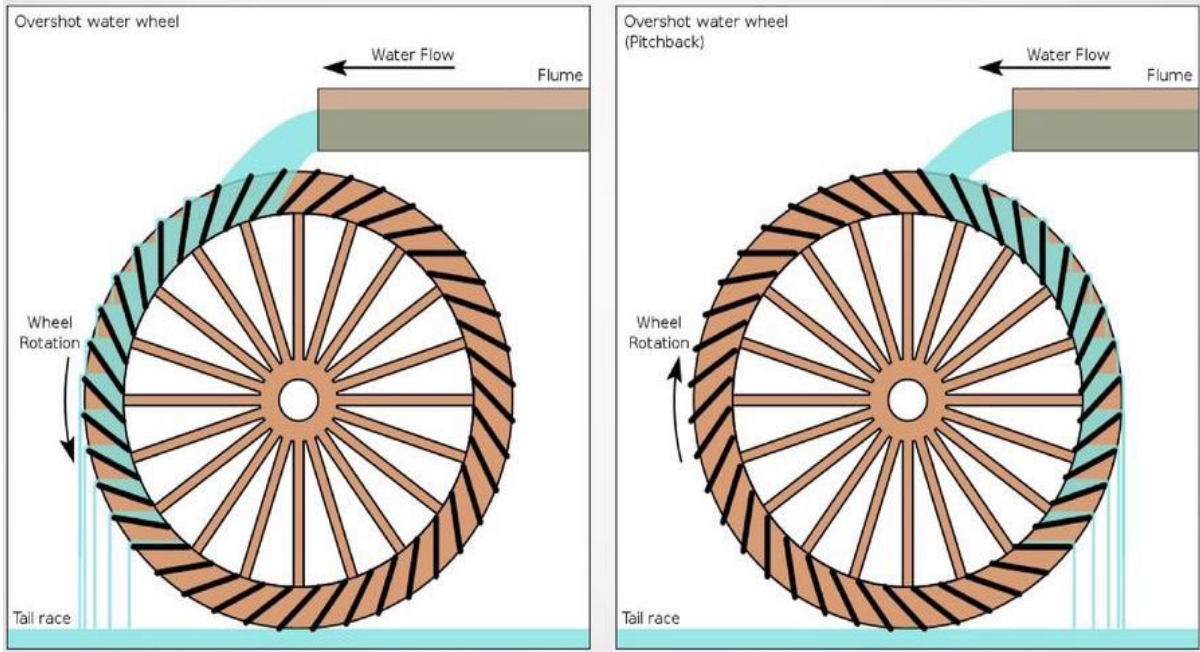


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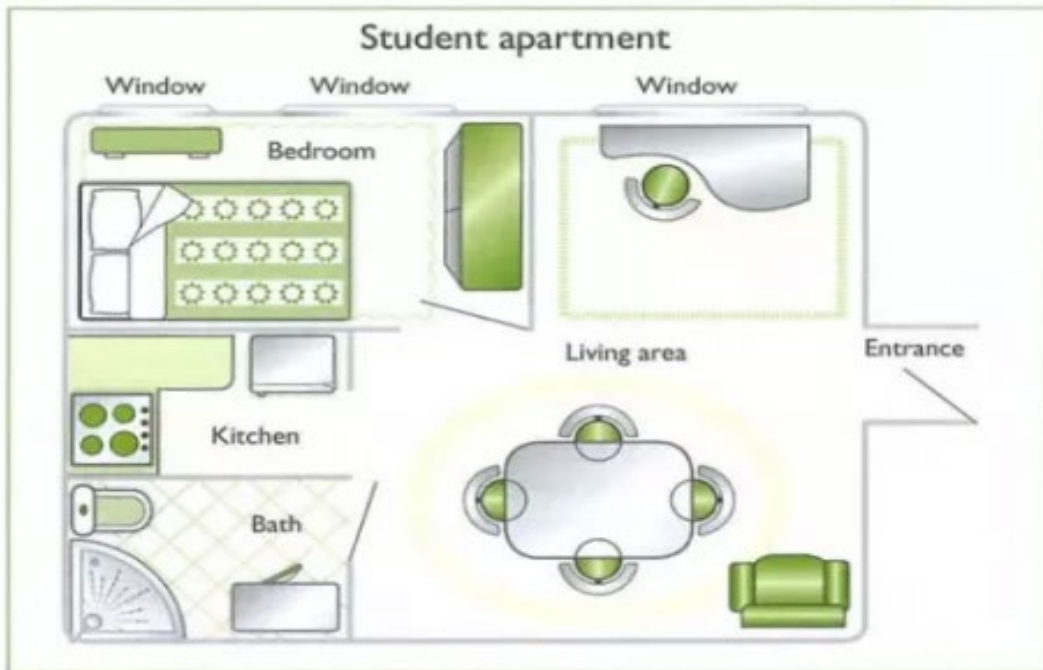




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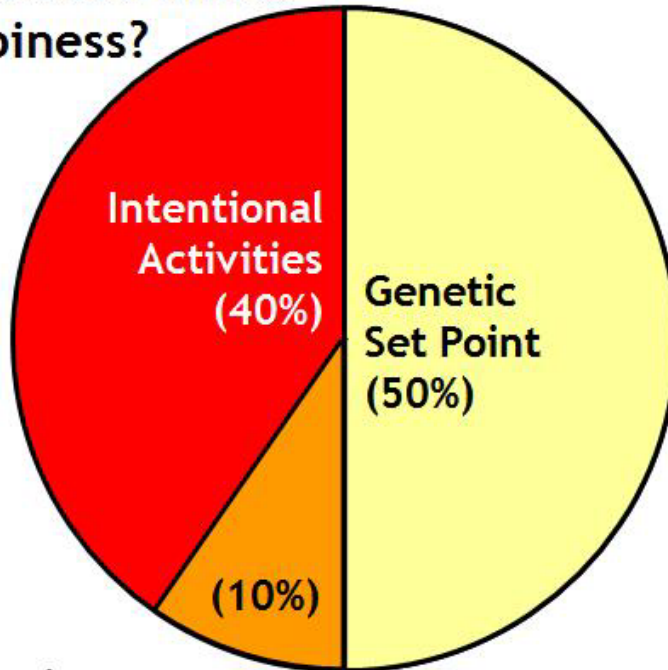
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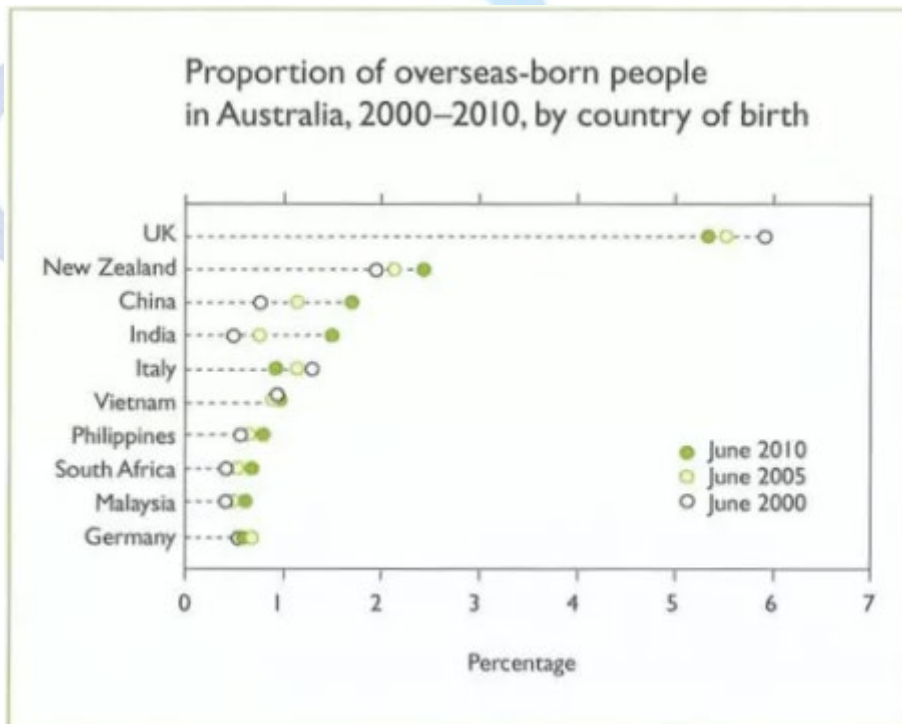
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### What Determines Happiness?



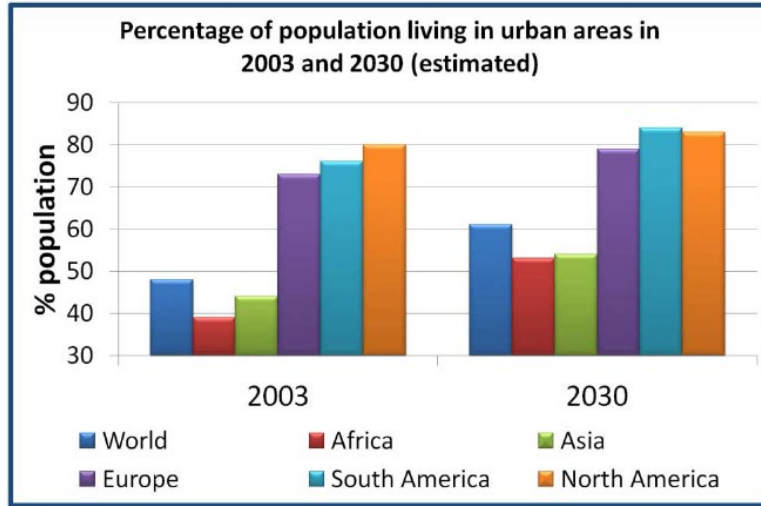
### Life Circumstances

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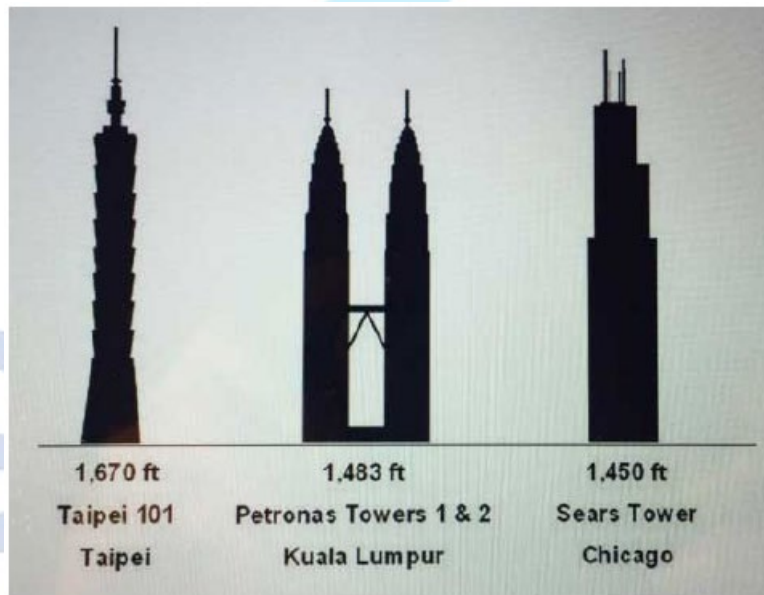




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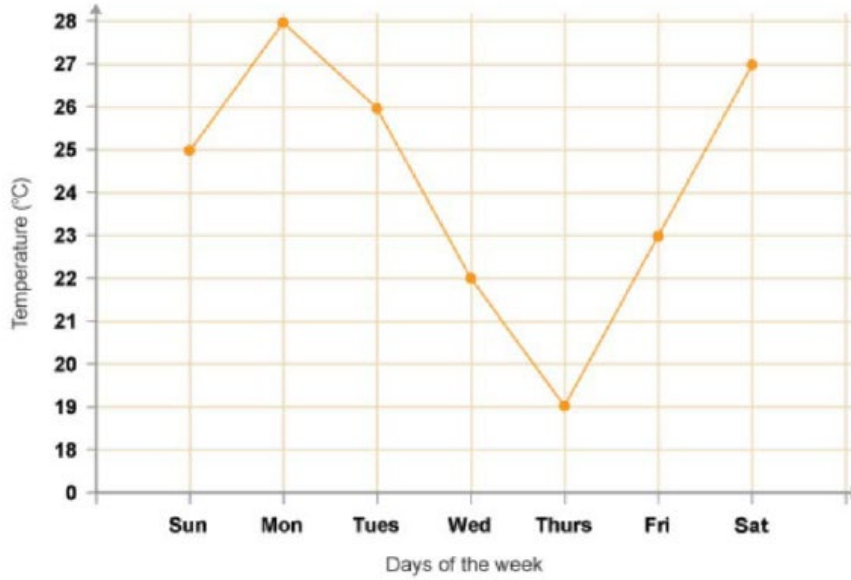


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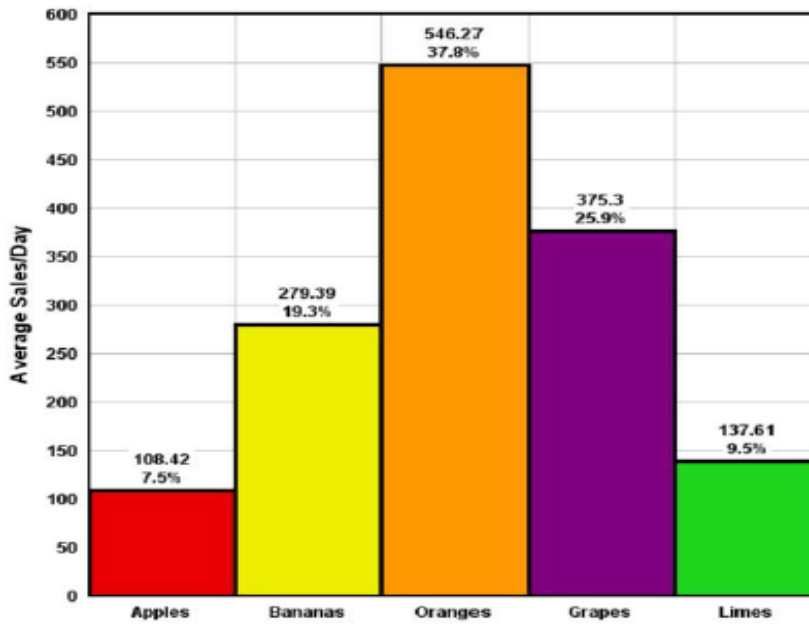


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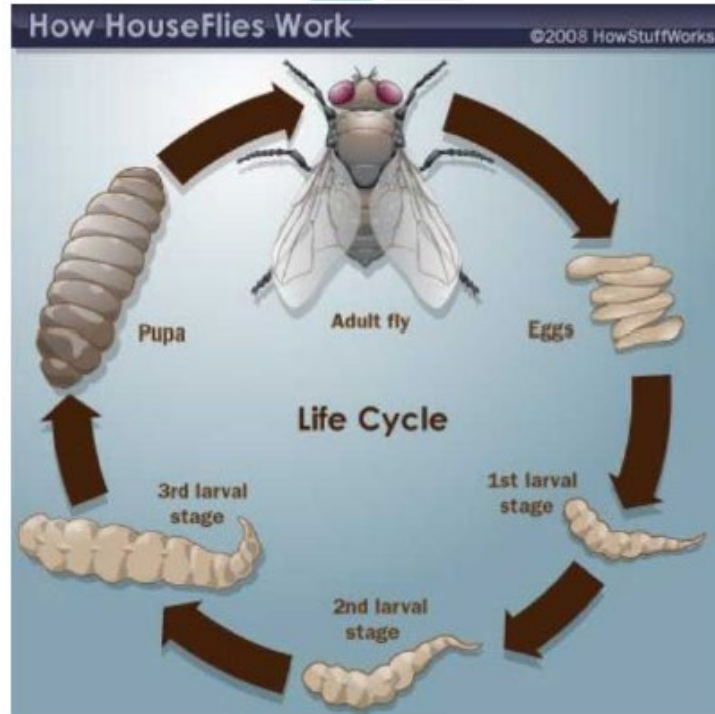
Joe's Fruit Stand Sales





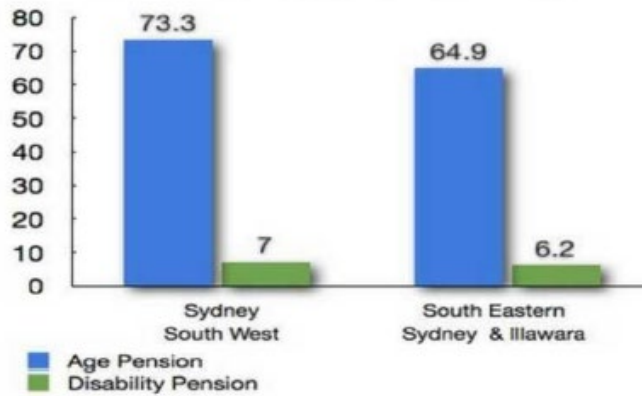


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80

**Benefit Recipient by Health Area in Sydney, 2004**  
(Per cent of eligible population)





## Retell Lecture

1. Thanks for this opportunity to speak about Australia's engagement with Asia from the perspective of trade and in particular to say a few words about what trade is doing in this, in this space. And I'm particularly pleased to be addressing trade and investment not just of course because these two things are inextricably linked but also of course because Australia reports to Australia's first ever Minister for trade and investment. Asia's importance to Australia's economy is growing by the day. It is one of the most important factors to consider. When assessing the International conditions for national prosperity Asian demand for our exports has helped Australia manage the global financial crisis better than most other developed economies. In fact, probably better than all other developed economies. An investment from Asia has added to the productive capacity of the economy and to overall productivity in 2013. Seven of our top ten export markets were in Asia and represented 65 percent of our total exports. Asian markets and Australia's geographic proximity are critical not just for our trade ties and our capacity to access important global supply chains, but also to the level of foreign investment in Australia. FDI has grown markedly in Australia over the past decade. In fact it has more than doubled from about two hundred ninety two billion dollars to 630 billion dollars in 2013.
2. The amount of money drug companies spend on TV ads has doubled in recent years. Studies show they work: Consumers go to their doctor with a suggestion for a certain prescription drug they saw advertised on TV. Now a study in the Annals of Family Medicine raises questions about the message the ads promote. You're most likely to see drug ads during prime time,



especially around the news. Researchers analysed ads aimed at people with conditions like hypertension, herpes, high cholesterol, depression, arthritis and allergies. The drug industry says the ads arm consumers with information. Researchers found that the information was technically accurate, but the tone was misleading. "Typically, what we would see with these ads is that before taking a particular prescription drug, the character's life is out of control and the loss of control extended beyond the impact of their health condition says UCLA psychologist Dominick Frosch, who headed the study. For example, herpes patients were portrayed as being incapacitated for days. Insomniacs were utterly out of sync on the job. Depressed patients were friendless and boring at parties. "When the character is then shown taking the drug, he then magically regains complete control of his life." Frosch notes. None of the ads mentioned lifestyle changes that could also help treat the condition. That's not surprising, given that the ads are just another form of mass marketing. But prescription medicines are not soap. Sample answer : The lecture was about advertising. He mentioned that the advertisement on medicine prescription has doubled, compared to its prime time. People buy drugs depending on what they saw on the ads. Despite medicine ads may be technically accurate, they are misleading in tones. Depression patients, for example, may feel better after taking the medicine. However, it does not mean there is a change in their life style. Therefore, buying the prescription medicine is not like buying a soap, it takes a sober mind and careful decision and understanding of what we really need to improve.

3. A non-governmental organization (NGO) is an organization that is neither a part of a government nor a conventional for-profit business. Usually set up by ordinary citizens, NGOs may be funded by governments, foundations, businesses, or private persons. Some avoid formal funding altogether and are



run primarily by volunteers. NGOs are highly diverse groups of organizations engaged in a wide range of activities, and take different forms in different parts of the world. Some may have charitable status, while others may be registered for tax exemption based on recognition of social purposes. Others may be fronts for political, religious, or other interests. The number of NGOs in the United States is estimated at 1.5 million. Russia has 277,000 NGOs. India is estimated to have had around 2 million NGOs in 2009, just over one NGO per 600 Indians, and many times the number of primary schools and primary health centres in India. NGOs are difficult to define, and the term 'NGO' is rarely used consistently. As a result, there are many different classifications in use. The most common focus is on "orientation" and "level of operation". An NGO's orientation refers to the type of activities it takes on. These activities might include human rights, environmental, improving health, or development work. An NGO's level of operation indicates the scale at which an organization works, such as local, regional, national, or international. Sample Answer: This lecture mainly talks about the non-governmental organization. NGOs may be funded by governments, foundations, businesses or private persons. The number of NGOs in the US is 1.5 million and India has around 2 million in 2009. It is difficult to define NGO as the activities are highly diverse, some may have charitable status while others maybe registered for tax exemption.

4. In India, a lot of people are working as community service workers. Quarterly meetings are held in order to provide training and consultation to them, and thus they can understand how to prevent diseases from spreading throughout the communities, such as HIV, which is difficult to be controlled. Such precaution knowledge is taught by professionals from large hospitals and organizations. But in some cities, large consultation is not suitable



because it is hard for target groups to meet, who live in remote areas. To deliver training to them, professional teams have to go across rivers.

5. The biotech engineering has undergone three phases. In the first phase, people designed and made some simple machines, which aimed to help people understand ourselves. And first group of people that realized we could learn from ourselves were engineers. And then, based on the studies, people began to make complicated devices, in order to cure wounds, like the practice of suture, and to study physiology. This is the second phase. Later, since we went into the third phase, more complicated machines have been developed, like ECG (electrocardiography), able to have an insight of your internal body without intruding it, which can show the human brain's functions. X-ray is a good example. In an X-ray picture, you can see the bright area is the heart with some vessels around, and the dark area is the lungs. These devices benefit humans greatly in solving health problems, such as diseases.
6. I think with our linguistic training we also get all this invisible training to be authorities, to be the people who know. It is part of that process that you come out as a world authority on your chosen subject. But when we move into working with communities, we have to recognise that the communities have to be the authority in their language. Actually, a woman in the class I'm teaching at Sydney at the moment, a career woman, expressed this very nicely, although she was talking about something else, she was distinguishing expertise from authority. And certainly linguists, because of our training we do, have expertise in certain very narrow areas of language, but we don't have the authority over what to do with that knowledge or what to do with other knowledge that the community produces. I guess for me the bottom line is languages are lost because of the dominance of one people over another. That's not rocket science, it's not hard to work that out. But then what that



means is if in working with language revival we continue to hold the authority, we actually haven't done anything towards undoing how languages are lost in the first place, so in a sense the languages are still lost if the authority is still lost.

7. Aquaculture, the farming of fish, shrimp, shellfish and seaweeds, has been the sources of human protein for nearly four thousand years, especially in Asia. In the last decade, however, there is been unprecedented growth in aquaculture production, more than 300% since 1984, which has increased the importance of the modern food supply. It's the world's fastest growing food production activity. And globally, more than 25% of the odd fishing and shellfish production in 1999 was attributable to aquaculture. Yes, this industry's contributions to human diet is actually greater than the numbers imply, whereas 1/3 of the conventional fish catch is used to make fish meal and fish oil. Virtually all farmed fish are used as human food. Today, nearly 1/3 of fish consumed by human is the product of aquaculture, and that percentage will only increase as aquaculture expands the world's conventional fish catch, for the oceans and lakes continues to decline because of overfishing and environmental damage.
8. Here are three important factors in creativity: people, process and product. The most important one is the process. First you have to create the right person through education with a creative mind. Second, you have to create the right process to have people engaged in innovation process. Third, you need to find the right problem to work on. Human beings can survive and prosper largely depending on the creativity they have. If you identify and assess the creativity of a finished product, it is taken as a proxy for the creativity of the person who produced such a product. Therefore, a creative product should be surprising, original, beautiful and useful. People should have





factors necessary for genius, ability, and right mindset. You should improve to imitate and change insight look from new perspectives, innovatively create something with imagination to expand conceptual spaces.

9. Absolutely. There's a lot of interest in what forms those clouds. Why are those clouds there, why do they stick around? At the center of every cloud drop is a particle. You can't grow a cloud drop without having a particle there for the water to condense on. The key questions that people have not directly addressed until very recently is what actually forms those clouds. And so the ones that you're looking at over the ocean, it turns out sea salt is a very effective nucleator for forming clouds,, so there's a really good chance that those are loaded with sea salt. But as you go inland you start to have pollution come from all different kinds of sources, and so different sources form clouds more effectively than others. And we're trying to unravel which sources are actually contributing to the clouds. The clouds are incredibly important players in climate change in that they reflect the light back to space, and so they're keeping things much, much cooler than they would be if they weren't there. They also play a huge role in regional weather. So we're actually starting to see shifts where having more pollution input into the clouds is affecting weather patterns, and in particular it's actually reducing the amount of precipitation, so we're starting to see drought in areas with super high levels of air pollution.
10. Mars is the fourth planet from the sun and the second smallest planet in the solar system after Mercury, named after the Roman god of the war. It is often referred to as a red planet because the iron oxide prevalent on its surface gives it a reddish appearance. Mars is a terrestrial planet with a thin atmosphere, having surface features reminiscent of both the impact crater of the moon, and the volcanoes, valleys, deserts, and polar ice caps of the earth.



The rotational period and the season cycles of the Mars are likewise similar of those of earth, as it was the tilt that produced the seasons. Mars is the site of the Olympus Mons, the largest volcano and the second largest known mountain in the solar system, and the Valles Marineris, one of the largest canyon in the solar system. Until the first successful Mars flyby in 1965 by Mariner 4, many speculated about the presence of the liquid water on the planet surface. This was based on observed periodic variation in the light and the dark patches, particularly in the polar latitude, which appeared to be seas and continents. Geological evidence gathered by the unmanned mission suggested that Mars once had a large scale of water coverage on the surface at some earlier stages of existence.

11. Frogs are a diverse and largely carnivorous group of short-bodied, tailless amphibians composing the order Anura. The oldest fossil proto frog appeared in the early Triassic of Madagascar, but molecular clock dating suggests their origins may extend further back to the Permian, 265 million years ago. Frogs are widely distributed, ranging from the tropics to subarctic regions, but the greatest concentration of species diversity is found in tropical rain forests. There are approximately 4,800 recorded species, accounting for over 85% of extant amphibian species. They are also one of the five most diverse vertebrate orders. Besides living in fresh water and on dry land, the adults of some species are adapted for living underground or in trees. Adult frogs generally have a carnivorous diet consisting of small invertebrates, but omnivorous species exist and a few feed on fruit. Frogs are extremely efficient at converting what they eat into body mass. They are an important food source for predators and part of the food web dynamics of many of the world's ecosystems. The skin is semipermeable, making them susceptible to dehydration, so they either live in moist places or have special adaptations to



deal with dry habitats. Frogs produce a wide range of vocalizations, particularly in they are breeding season, and exhibit many different kinds of complex behaviors to attract mates, to fend off predators and to generally survive. Frog populations have declined significantly since the 1950s. More than one-third of species are considered to be threatened with extinction and over one hundred and twenty are believed to have become extinct since the 1980s. The number of malformations among frogs is on the rise and an emerging fungal disease, chytridiomycosis, has spread around the world. Conservation biologists are working to understand the causes of these problems and to resolve them. Frogs are valued as food by humans and also have many cultural roles in literature, symbolism and religion.

12. Last week we talked about how people recognize objects and really how well people recognize objects, given how difficult the problem is, given how objects can be seen in all different sorts of illumination, in different positions, in different angles. And yet we are able to extract that information, we are able to take the visual stuff out there, interpret it in a way that allows us to recognize all the different things that we can see in our environment. Today we're gonna kind of carry on looking at that, but we gonna look at what's really a special class of objects. That's the human face. So we gonna look at how we recognize human faces and how we do it quite as well as we do. We're really expert at recognizing faces. So again we can think about how do we take that visual information and how do we transform it into a form which allows us to put a name to a face, and to do all the other clever things that we can do with faces. So I'm gonna start off again by just pointing out that it's a hard problem. Face recognition is a hard problem, and it's a clever thing we do. If you think about all the different types of faces you can recognize, and



all the different types of information you can get from the face, you kind of start to appreciate how well we can do face recognition.

13. But if were to ask you a similar question: "What percentage of the population do you think is capable of truly mastering calculus, or understanding organic chemistry, or...or being able to contribute to ..to cancer research?" A lot of you might say, "Well, with a great education system, maybe 20, 30 percent." But what if that estimate is just based on your own experience in a non-mastery framework your own experience with yourself or observing your peers, where you're being pushed at this set pace through classes, accumulating all these gaps? Even when you got that 95 percent, what was that five percent you missed? And it keeps accumulating all the way you get to an advanced class, all of a sudden you hit a wall and say, "I'm not meant to be a cancer researcher; not meant to be a physicist; not meant to be a mathematician." I suspect that that actually is the case, but if you were allowed to be operating in a mastery framework, if you were allowed to really take agency over your learning, and when you get something wrong, embrace it- view that failure as a moment of learning that number of, of, the percent that could really master calculus or understand organic chemistry, is actually a lot closer to 100 percent. And this isn't even just a "nice to have." think it's a social imperative.
14. Now, why are companies embracing the reentry internship? Because the internship allows the employer to base their hiring decision on an actual work sample instead of a series of interviews and the employer does not have to make that permanent hiring decision until the internship period is over. This testing out period removes the perceived risk that some managers attach to hiring relaunchers and they are attracting excellent candidates who are turning into great hires. Think about how far we have come. Before this, most employers were not interested in engaging with relaunchers at all. But now,



not only are programs being developed specifically with relaunchers in mind but you can't even apply for these programs unless you have a gap on your resume. This is the mark of real change of true institutional shift because if we can solve this problem for relaunchers we can solve it for other career transitioners too. In fact, an employer just told me that their veterans return to work program is based on their reentry internship program. And there's no reason why there can't be a retiree internship program. Different pool, same concept.

15. This kind of approach is kind of the way some students approach preparing for standardized tests. In order to get test scores to go up, teachers will end up teaching to the test. Now, that approach can work; test results often do go up. But it fails the fundamental goal of education: to prepare students to succeed over the long term. So given these obstacles, what can we do to transform the way we transform organizations? So rather than being exhausting, it's actually empowering and energizing? To do that, we need to focus on five strategic imperatives, all of which have one thing in common: putting people first. The first imperative for putting people first is to inspire through purpose. Most transformations have financial and operational goals. These are important and they can be energizing to leaders, but they tend not to be very motivating to most people in the organization. To motivate more broadly, the transformation needs to connect with a deeper sense of purpose. Take LEGO. The LEGO Group has become an extraordinary global company. Under their very capable leadership, they've actually undergone a series of transformations. While each of these has had a very specific focus, the North Star, linking and guiding all of them, has been Lego's powerful purpose: inspire and develop the builders of tomorrow. Expanding globally? It's not about



increasing sales, but about giving millions of additional children access to LEGO building bricks.

16. So, the idea I'd like to propose today is this: one of the most effective ways of building strong fundamentals in students and preparing them for the future, ironically enough is by looking to the past through the teaching of Latin. Latin will help students think more logically, communicate more effectively and have a more comprehensive understanding of the world around them, no matter how technologically advanced that world may become. To begin with, let's address a common misconception that Latin is a dead language spoken by ancient European 2000 years ago, holding no relevance whatsoever for people living in the 21st century. There's even an old poem that expresses the point of view. Latin is a language, as dead as dead can be. First it killed the Romans and now it's killing me. Now students may feel this way sometimes but the this simply is not true, the reality is that Latin never died, and never came to a crashing end with a death of a single tragic figure. It's simply evolved gradually over time and developed into the other languages. Moreover, classic Latin is still very much alive and well in government, art, religion, literature, medicine, law and science. It's not a dead language. It's an eternal language.
17. Tattoos have often been presented in popular media as either marks of the dangerous and deviant or trendy youth fads. But while tattoo styles come and go, and their meaning has differed greatly across cultures, the practice is as old as civilization itself. Decorative skin markings have been discovered in human remains all over the world, with the oldest found on a Peruvian mummy dating back to 6,000 BCE. But have you ever wondered how tattooing really works? You may know that we shed our skin, losing about 30-40,000 skin cells per hour. That's about 1,000,000 per day. So, how come the tattoo doesn't





gradually flake off along with them? The simple answer is that tattooing involves getting pigment deeper into the skin than the outermost layer that gets shed. Throughout history, different cultures have used various methods to accomplish this. But the first modern tattooing machine was modeled after Thomas Edison's engraving machine and ran on electricity. Tattooing machines used today insert tiny needles, loaded with dye, into the skin at a frequency of 50 to 3,000 times per minute. The needles punch through the epidermis, allowing ink to seep deep into the dermis, which is composed of collagen fibers, nerves, glands, blood vessels and more. Every time a needle penetrates, it causes a wound that alerts the body to begin the inflammatory process, calling immune system cells to the wound site to begin repairing the skin. And it is this very process that makes tattoos permanent.

18. Well, according to the American Psychiatric Association, addiction is a complex condition of the brain where a person has compulsive substance use despite there being harmful consequences. People with addiction tend to have an intense focus on what they're addicted to, to the point where it takes over their life. What makes it so hard to break an addiction is that it can change the way your brain is wired, giving you harsh cravings that make it difficult to stop. Studies of brain imaging have even shown changes in areas of the brain that relate to judgement, decision making, learning, memory, and behavior control. So, is this what's happening with Facebook and social media? It's hard to say for sure. That being said, we are starting to give more credit to an addiction that might be pretty similar. video games. That's because the American Psychiatric Association includes Internet Gaming Disorders as disorders that requires further research, but that can result in clinically significant impairment or distress. The World Health Organization has also added Gaming disorders to their International Classification of Diseases,



which is used by medical practitioners around the world to diagnose conditions. Now online video games are obviously not the same as a site like Facebook, yet they do have similar social aspects. It's possible that in the future we'll see health organizations also classifying social media as a type of addiction or disorder. Still, sites like Facebook do have quite a few qualities that make you want to come back to them. Through constant feeds that go on forever and giving you push notifications on your phone, social media sites try their best to keep you on their app or website, and if you leave, they want you to come back as quickly as possible. Google and Facebook further their reach by also being commonly used to sign into other sites. Social media sites also seem to have a significant impact on how you feel, furthering your connection to them.

19. We've all heard the phrase "Laughter is the best medicine." But why do we laugh in the first place? It seems that laughing might be a little more hard-wired into us than you might think. Infants laugh very early in life, usually learning how to laugh before they can speak. Not only that, but people that are born blind and deaf can still exhibit laughter. One study found that the laughter produced from deaf participants was fundamentally similar to that produced by normally hearing individuals, backing up the idea that laughter is grounded in human biology. It's also been theorized that laughter predates human speech by potentially millions of years, being a simpler form of communication. Laughter is thought to have likely helped earlier people negotiate group dynamics and establish hierarchy. I can't even imagine trying to explain that I'm a little goofball using only laughter! So, if laughter actually is instinctually part of humans, then why do people laugh? It seems like laughter is more of a way for people to better handle stress and make situations feel less threatening than laughter only being about things that we



find to be funny. In practice, with a study of 1,200 people that laughed spontaneously in their natural environments, only about 10-20 percent of the laughing episodes followed anything the researchers found to be joke-like. Finding something funny still seems to play a part in why we laugh some of the time, but laughing to make yourself feel better about your next difficult exam might be just as probable as cracking up over that joke you just heard.

20. But what exactly happens to your body when you're in a coma? First we have to be clear that comas are very different from sleep. Despite the fact that the origin of the word comes from the Greek for Koma, or deep sleep, comas are not sleep however and are instead various forms of unconsciousness that render a person unable to respond to any external stimuli. You can play the loudest, heaviest death metal in the world right next to someone who's comatose, and you won't succeed in doing anything except really annoying the neighbors. Likewise you can even physically hurt people in a coma and they will remain completely oblivious and unresponsive. In times not too distant past, this was sometimes used as treating, with doctors trying to shock their victims back into consciousness. Everything was tried from exposing parts of the body to open flames to severely dropping the body's temperature with ice, to even bloodletting from the head directly. One treatment even included wholly emptying the stomach, we guess because the doctors thought that if a patient got hungry enough, the body would force them to wake up. Or maybe they really were just throwing everything including the kitchen sink at the problem, which we're sure was also tried. Comas can occur as a result of serious trauma or as a deliberate medical treatment by doctors. They are typically brought on by traumatic head injury, and it's believed that it's the brain's way of shutting down so it can focus on repairing itself. They can also however be brought on by a stroke, a brain tumor, drug or



alcohol abuse, or an illness such as diabetes or an infection. Most of the time a coma only lasts a few weeks though, but past this period the patient can enter a persistent vegetative state that severely lessens their chances of ever coming back out of one.

21. Take a look outside a window. What is the season where you are? How do you know? Most likely, you looked at a tree or plant and noticed details about its leaves and assessed the qualities of sunlight streaming outside. Observing the timing of biological events in relation to changes in season and climate is called "phenology", When you notice the daffodil buds are poking through the snow and think spring is on its way, you're using phenology. When you see leaves turn from green to red, and watch migrating birds fly past, and realize that summer is over, autumn is here, you're using phenology. Literally meaning, "the science of appearance", phenology comes from the Greek words "pheno," to show or appear, and "logos," to study. Humans have relied on phenology since the time of hunters and gatherers. We've watched changes in seasons to know when to plant and harvest food and when to track migrating animals. Scientists observe and document seasonal changes in nature and look for patterns in the timing of seasonal events. Timing of these natural signs has remained consistent until recently. Increasing global temperature is causing rhythms of nature to shift. Bud burst, the day when a tree or plant's leaf or flower buds open, is occurring earlier in the year for some species. For every one degree Celsius rise in temperature, bud burst happens five days earlier than usual. Differences in timing affect not only plants, but the insects and birds that depend on the plants for food.
22. It's rare to find an adult who actively still wonders what their parents think. But that isn't to say that we aren't wondering about our value in more general terms. It's just that we may without noticing, have taken the question



somewhere else and very often, to particularly harsh modern figures of authority: media and social media. To this pitiless arena, the self-doubting person now directs all their fears of unworthiness and panicked desire for reassurance. To a system set up to reward sadism and malice, they constantly raise their phones and implicitly ask: Do I deserve to exist? Am OK? Am beautiful or respectable enough? And, because social media is built on the troubles of the individual soul, the verdict is never a reliable yes. One is never done with cycles of fear and reassurance-seeking. Every time their spirits sink, which is often, the self-doubting sufferer picks up their phone and begs to know whether they have permission to go on. If this might be us, we should grow curious about, and jealous of, people who are free. They are so because someone long ago settled the question of what they were worth and the answer has seemed solid ever since. Social media is a roar in the next valley, not a mob in their own mind. Learning from these calm souls won't just involve deleting a few apps, we will have to go further upstream, back to the baby self, whose alarmed enquiries we must quiet once and for all with ample doses of soothing, and till-now absent kindness.

23. The result of the scientific research shows that all metals response to the heat. In recent years, people used to think that metal is supposed to blend under the heat, but sometimes it doesn't behave, so because atoms in the metal have random processes. The heat can accelerate the processes but won't change the essence of random, so it could violate what we used to think. Hydration heat characteristics of blended cement containing up to 50% steel slag were studied at 25 Â°C, 45 Â°C and 60 Â°C by isothermal calorimeter. Kinetics equations were used to explore kinetics of blended cement. Kinetics parameters, n, K, and Ea, were calculated and analyzed. Results indicated that the activity of steel slag was very low. Steel slag accelerated the



hydration of aluminates but decelerated the hydration of silicates in cement clinker. Small amount of steel slag affected little the hydration process of cement. Elevated temperature obviously promoted the hydration of blended cement. The hydration of blended cement containing no more than 35% steel slag was controlled by nucleation of hydrates in acceleration period and by diffusion of ions in decay period. The hydration of blended cement containing 50% steel slag was mostly dominated by phase boundary reaction, then directly by diffusion. Ea increased with increasing steel slag content.

24. Volunteers in scientific studies sometimes get compensated. The payment can be cash, a gift card, or something almost worthless: "It's amazing what people will do for a lollipop when they've had a few drinks." Simon Moore is a professor of public health research at Cardiff University in the U.K. And the lollipops were for people who agreed to blow into a breathalyzer, while out on a Friday or Saturday night in Wales—more than 1,800 people agreed to the exchange. And the scores covered a wide range of alcohol intake. "So that would go from zero upwards. I think one of the largest scores we had was 120, which is a near-death experience. The researchers also gave a subset of volunteers a short survey about drinking habits and health risks. Questions like: "How drunk are you right now?" and "How extreme has your drinking been tonight?" And they found that even very drunk respondents felt relatively more sober, if they were surrounded by even drunker people. In other words: our perception of intoxication—and its risks—is relative. "So this is the point, as you change context, perceptions will change, although the absolute level of alcohol in their system doesn't change." The study is in the journal BMC Public Health Moore says one way to use this finding is for better city zoning. "In the United Kingdom for example there's been a big push to put more premises that sell alcohol in the same district, in the same area. And what this does is





create a concentration of drinkers. So what we might argue from this is, well let's try to break that up a little bit.

25. A lot of people in the United States are coffee drinkers. Over the last few years, a trend has been developing to introduce premium specially blended coffees known as gourmet coffees into the America market. Boston seems to have been the birthplace of this trend. In fact, major gourmet coffee merchants from other cities like Seattle, San Francisco, came to Boston where today they are engaged in a kind of coffee war with Boston's merchants. They are all competing for a significant share of the gourmet coffee market. Surprisingly the competition among these leading gourmet coffee businesses will not hurt any of them. Experts predict that the gourmet coffee market in the United States is growing and will continue to grow to the point that gourmet coffee will soon capture a half of what is now a 1.5 million- dollar market and will be an eight-milliondollar market by 1999. Studies have shown that coffee drinkers who convert to gourmet coffee seldom go back to the regular brands found in supermarkets.
26. There is no denying that the concept of family has certainly changed in American society over the last few decades. Statistics continue to show that fewer Americans are getting married, and those who do so are having fewer children or none at all. More marriages are ending in divorce. More people are living alone, cohabiting with someone, or marrying more than once in a lifetime and creating stepfamilies. Traditional families once dominated every neighbourhood. A traditional family consists of a husband and wife, plus their children, whether biological or adopted, if they have any Today, American society displays greater diversity, and many American households can be considered non-traditional under this definition. Family structures that may be considered non-traditional or alternative include single parenthood,



cohabitation, same-sex families, and polygamy. Let's take a brief look at each of these. Single parenthood was fairly common prior to the 20th century due to the more frequent deaths of spouses. But at that time, there was a certain stigma surrounding being a single parent. Today, single parenthood is considered more acceptable. One-parent families may still result from the death of a significant other, but now also come about through circumstances, including a parent's choice or divorce. Cohabitation is the sharing of a household by an unmarried couple. This arrangement continues to gain popularity in the U.S., and cohabiting couples and their children made up approximately 15 million households according to the 2012 U.S. Census. Cohabitation can be seen as an alternative form of marriage.

27. But you can see from the relatively crooked and narrow streets of the city of Rome as they look from above today, you can see that again, the city grew in a fairly ad hoc way, as I mentioned. It wasn't planned all at once. It just grew up over time, beginning in the eighth century B.C. Now this is interesting. Because what we know about the Romans is when they were left to their own devices and they could build the city from scratch, they didn't let it grow in an ad hoc way. They, they structured it in a, in a very care-, very methodical way. That was basically based on military strategy, military planning. The Romans they couldn't have conquered the world without obviously having a masterful military enterprise. And they everywhere they went on their various campaigns, their various military campaigns. They would build, build camps and those camps were always laid out in a very geometric plan along a grid, usually square or rectangular.
28. I have said before that you can't have a civilization that doesn't have art. When we think about the great civilizations historically. All of them had great production of culture and art. Because a society has to be able to observe



itself. And the sophistication of the great civilizations were their ability to look at themselves and what allows a society to do that Are the producers of Art and Culture mirror back? To the core of the society. Exactly what is being produced at that moment? How people are thinking of themselves and how individuals are relating to the social structure at that time? Art is the vehicle through which we understand that. Were you to take away art? What would be that mirror. How would we see what we are about? how would we understand what was going on in Paris? at the time of the impressionists when people were learning to see in a completely different way. Pre cinematograph appear all of these things are just emerging and here are people looking at the world in a very different way which was considered so radical at the time.

29. Okay. So this is the big benefit of a universal philosophy. It says it applies to everybody. Well, looks that doesn't, you know, 205 or 206 countries in the world. And you've got something that applies to everybody. That's a bit strange, isn't it? No, says liberal theory. There are same value structures that apply to all of us. You couldn't have the United Nations without it. It couldn't tell you that the Universal Declaration of Human Rights without this idea of values that apply to all of us just because we are humans. Now, the idea is to test that as well. Why is sport universal? Why does everybody play football? It's because the values are specified at a very thin level at the top. There are these rules and we all have to abide by just these rules. But there are lots of things about football that aren't rules specified. So Brazilian football is different from Italian football, from British football, from German football, from Spanish football. It's culturally specific, but acknowledges that there are these universal general rules to apply to everybody.
30. The history of software is of course very very new. And the whole IT industry is really only 67 years old which is extraordinary and to be so close to the birth of



a major new technology, a major new discipline is quite remarkable given where we got to in those 67 years. And the progression has been not so much a progression as a stampede because Moore's Law, the rapid expansion in the power of computing and the rapid fall of the cost of computing and storage and communications has made it feasible for information technology to move into all sorts of areas of life that were never originally envisaged. What has happened is that there has been as I said a stampede for people to pick the low-hanging fruit. And that is what's guided the development of software and information technology over the past decades and continues to do so with a number of consequences that we will explore.

31. Let's say if I'm asking which source do you often use to get information. Newspaper? Radio? And the survey shows 62% of the people chose internet. You might be thinking I am going to say, how important the internet is, or how quickly it has changed the world for a few years. But what if I tell you this survey is conducted on the website global and mail.com? Our answer will be different. Because the people who did this survey on a website must be frequent users of internet. This sample is a biased sample. So we have to pay attention to how a survey is conducted.
32. Genie spent the first 13 years of her life locked away in a small bedroom in her parents' home. In 1970, her parents were charged with child abuse and Genie began rehabilitation with a team of psychologists and linguists. And scientists were using her experiences to answer the following question: if a person is deprived of language throughout their childhood, can they ever learn enough to be able to communicate well? At first, the answer appeared to be yes. Genie quickly began to learn new words for the objects around her and even say phrases with two or three words similar to how toddlers speak. However, from there, her ability to communicate verbally plateaued. This is because she



could not learn grammar, which linguist Noam Chomsky believes separates human language from the communication of animals. It appeared that Genie had passed the critical period of learning human language, which is thought to end around puberty. Scientists have hypothesized that, after a restricted developmental period where the nervous system is particularly sensitive to the effects of a certain experience, in this case, language, it is nearly impossible to learn it. And the same effects have also been shown when learning sign language after the critical period. Now you're probably wondering why there is a critical period in the first place. According to Eric Lenneberg, the linguist who popularized the critical period hypothesis, the function of language tends to settle in the left hemisphere of the brain after the critical period. And it's thought that the brain loses some of its plasticity after this lateralization. So, if you haven't learned language until after this point, it may be harder for your brain to learn the new material. And sadly for Genie, she was already past that point. However, while Genie would never be able to effectively use language, she was able to quickly learn other things, such as how to use the toilet and dress herself

33. So maybe you're on vacation, you're in Athens for the first time. During the day you're experiencing a bunch of new events and new sights and sounds, and as it's going by that is prospectively it seems to be flying by. In retrospect however, maybe the next day or you're back from vacation looking back upon that, it seems to be a long day. So retrospectively it seems that it was an extended period of time. And this is something that was pointed out as far back as William James in his Principles of Neuroscience over a hundred years ago. And the point is that retrospectively we're not so much telling time but we're rebuilding or estimating how much time has elapsed based on the number of experiences we have in memory. So retrospectively you're more



estimating how much time has elapsed, if there was a period full of new memories then you're left with the impression that it was a long period of time retrospectively. But prospectively as it was taking place you were paying attention to some sort of internal clock in our brain, which you were looking at or querying, that was telling you that not much time has elapsed, because you weren't paying much attention to time. So, on the other hand when you're very bored or in an anxious state people experience time as dragging or going slow (again, prospectively).

34. Most of the world's ecosystems are the result of millennia of coevolution by organisms, adapting to their environment and each other until a stable balance is reached. Healthy ecosystems maintain this balance via limiting factors, environmental conditions that restrict the size or range of a species. These include things like natural geography and climate, food availability, and the presence or absence of predators. For example, plant growth depends on levels of sunlight and soil nutrients. The amount of edible plants affects the population of herbivores, which in turn impacts the carnivores that feed on them. And a healthy predator population keeps the herbivores from becoming too numerous and devouring all the plants. But even minor changes in one factor can upset this balance, and the sudden introduction of non-native organisms can be a pretty major change. A species that is evolved in a separate habitat will be susceptible to different limiting factors, different predators, different energy sources, and different climates. If the new habitat's limiting factors fail to restrict the species growth, it will continue to multiply, out-competing native organisms for resources and disrupting the entire ecosystem. Species are sometimes introduced into new habitats through natural factors, like storms, ocean currents, or climate shifts. The majority of invasive species, though, are introduced by humans.





35. Facts you read, hear, or study become memories through a process with three main steps. First comes acquisition: the moment you encounter a new piece of information. Each sensory experience activates a unique set of brain areas. In order to become lasting memories, these sensory experiences have to be consolidated by the hippocampus, influenced by the amygdala, which emphasizes experiences associated with strong emotions. The hippocampus then encodes memories, probably by strengthening synaptic connections stimulated during the original sensory experience. Once memory has been encoded, it can be remembered or retrieved later. Memories are stored all over the brain, and it's likely the prefrontal cortex that signals for their retrieval. So how does stress affect each of these stages? In the first two stages, moderate stress can actually help experiences enter your memory. Your brain responds to stressful stimuli by releasing hormones known as corticosteroids, which activate a process of threat detection and threat-response in the amygdala. The amygdala prompts your hippocampus to consolidate the stress-inducing experience into a memory. Meanwhile, the flood of corticosteroids from stress stimulates your hippocampus, also prompting memory consolidation. But even though some stress can be helpful, extreme and chronic stress can have the opposite effect.
36. One of the most striking properties about life is that it has color. To understand the phenomenon of color, it helps to think about light as a wave. But, before we get to that, let's talk a little bit about waves in general. Imagine you're sitting on a boat on the ocean watching a cork bob up and down in the water. The first thing you notice about the motion is that it repeats itself. The cork traces the same path over and over again... up and down, up and down. This repetitive or periodic motion is characteristic of waves. Then you notice something else... using a stopwatch, you measure the



time it takes for the piece of cork to go over its highest position down to its lowest and then back up again. Suppose this takes two seconds. To use the physics jargon, you've measured the period of the waves that cork is bobbing on. That is, how long it takes a wave to go through its full range of motion once. The same information can be expressed in a different way by calculating the wave's frequency. Frequency, as the name suggests, tells you how frequent the waves are. That is, how many of them go by in one second. If you know how many seconds one full wave takes, then it's easy to work out how many waves go by in one second. In this case, since each wave takes 2 seconds, the frequency is 0.5 waves per second. So enough about bobbing corks... what about light and color? If light is a wave, then it must have a frequency. Right? Well... yes, it does. And it turns out that we already have a name for the frequency of the light that our eyes detect. It's called color. That's right. Color is nothing more than a measure of how quickly the light waves are waving.

37. What is bipolar disorder? The word bipolar means two extremes. For the many millions experiencing bipolar disorder around the world, life is split between two different realities – elation and depression. Although there are many variations of bipolar disorder, let's consider a couple. Type 1 has extreme highs alongside the lows, while Type 2 involves briefer, less extreme periods of elation interspersed with long periods of depression. For someone seesawing between emotional states, it can feel impossible to find the balance necessary to lead a healthy life. Type 1's extreme highs are known as manic episodes, and they can make a person range from feeling irritable to invincible. But these euphoric episodes exceed ordinary feelings of joy, causing troubling symptoms like racing thoughts, sleeplessness, rapid speech,



impulsive actions, and risky behaviors. Without treatment, these episodes become more frequent, intense, and take longer to subside.

38. In 2019, a study led by Zurich's Crowther lab analyzed satellite imagery of the world's existing tree cover. By combining it with climate and soil data and excluding areas necessary for human use, they determined Earth could support nearly one billion hectares of additional forest. That's roughly 1.2 trillion trees. This staggering number surprised the scientific community, prompting additional research. Scientists now cite a more conservative but still remarkable figure. By their revised estimates, these restored ecosystems could capture anywhere from 100 to 200 billion tons of carbon, accounting for over one-sixth of humanity's carbon emissions. More than half of the potential forest canopy for new restoration efforts can be found in just six countries. And the study can also provide insight into existing restoration projects, like The Bonn Challenge, which aims to restore 350 million hectares of forest by 2030. But this is where it gets complicated. Ecosystems are incredibly complex, and it's unclear whether they're best restored by human intervention. It's possible the right thing to do for certain areas is to simply leave them alone.
39. How do schools of fish swim in harmony? And how do the tiny cells in your brain give rise to the complex thoughts, memories, and consciousness that are you? Oddly enough, those questions have the same general answer: emergence, or the spontaneous creation of sophisticated behaviors and functions from large groups of simple elements. Like many animals, fish stick together in groups, but that's not just because they enjoy each other's company. It's a matter of survival. Schools of fish exhibit complex swarming behaviors that help them evade hungry predators, while a lone fish is quickly singled out as easy prey. So, which brilliant fish leader is the one in charge?



Actually, no one is, and everyone is. So, what does that mean? While the school of fish is elegantly twisting, turning, and dodging sharks in what looks like deliberate coordination, each individual fish is actually just following two basic rules that have nothing to do with the shark: one, stay close, but not too close to your neighbor, and two, keep swimming. As individuals, the fish are focused on the minutiae of these local interactions, but if enough fish join the group, something remarkable happens. The movement of individual fish is eclipsed by an entirely new entity: the school, which has its own unique set of behaviors. The school isn't controlled by any single fish. It simply emerges if you have enough fish following the right set of local rules. It's like an accident that happens over and over again, allowing fish all across the ocean to reliably avoid predation.

40. The sensation of fullness is set in motion as food moves from your mouth down your esophagus. Once it hits your stomach, it gradually fills the space. That causes the surrounding muscular wall to stretch, expanding slowly like a balloon. A multitude of nerves wrapped intricately around the stomach wall sense the stretching. They communicate with the vagus nerve up to the brainstem and hypothalamus, the main parts of the brain that control food intake. But that's just one input your brain uses to sense fullness. After all, if you fill your stomach with water, you won't feel full for long. Your brain also takes into account chemical messengers in the form of hormones produced by endocrine cells throughout your digestive system. These respond to the presence of specific nutrients in your gut and bloodstream, which gradually increase as you digest your food. As the hormones seep out, they're swept up by the blood and eventually reach the hypothalamus in the brain. Over 20 gastrointestinal hormones are involved in moderating our appetites. One example is cholecystokinin, which is produced in response to food by cells in



the upper small bowel. When it reached the hypothalamus, it causes a reduction in the feeling of reward you get when you eat food. When that occurs, the sense of being satiated starts to sink in and you stop eating.

41. What I've learned is that the most effective people and teams in any domain do something we can all emulate. They go through life deliberately alternating between two zones: the learning zone and the performance zone. The learning zone is when our goal is to improve. Then we do activities designed for improvement, concentrating on what we haven't mastered yet, which means we have to expect to make mistakes, knowing that we will learn from them. That is very different from what we do when we're in our performance zone, which is when our goal is to do something as best as we can, to execute. Then we concentrate on what we have already mastered and we try to minimize mistakes. Both of these zones should be part of our lives, but being clear about when we want to be in each of them, with what goal, focus and expectations, helps us better perform and better improve. The performance zone maximizes our immediate performance, while the learning zone maximizes our growth and our future performance. The reason many of us don't improve much despite our hard work is that we tend to spend almost all of our time in the performance zone. This hinders our growth, and ironically, over the long term, also our performance.
42. For better or worse, we live in a world profoundly affected by Sigmund Freud. If I had to ask you to name a famous psychologist, the answer of most of you would be Freud. He was the most famous psychologist ever and he had a profound influence on the 20th and 21st century. Some biographical information: he was born in the 1850s. He spent most of his life in Vienna, Austria, but he died in London and he escaped to London soon after retreating there at the beginning of World War Two as the Nazis began to



occupy where he lived. He was one of the most famous scholars ever but he was not known for any single discovery. Instead, he was known for the development of an encompassing theory of mind, one that he developed over the span of many decades.

43. Indeed, the library. We've all been to a historic library. We've all enjoyed the smell of a historic library. But what is it? And what does it mean? When we've recently, when at UCL Center for Sustainable Heritage, we've recently been asked to assess the environment at another historical library at Saint Paul's Cathedral, the Wren library, an incredible place. And it has a such an intensive smell of old books, and we were also asked for the first time really I was actually taken aback by the brief, we were asked what you do please preserve the smell. It is so important to our audience. It is so important how people perceive the library. So, that is, that was quite an important message in our research. And indeed the smell is an important way of how we communicate with the environment. This piece of research was done by an advertising company because advertisers are so interested in how we, how we interact with each other and the environment. And we see that the majority of people use sight obviously to interact with the environment, but on the second place, we see the smell is also very, very important.
44. The Skoog is a new university accessible musical instrument. It is designed to use by children or adults with special needs or in fact be used by anyone. It's soft, it's easy to play, it's robust and it can be customized to suit anyone's abilities. The Skoog helps students with special needs by allowing them to get involved in making music themselves. It's an instrument that they can play it and they can take ownership of and start creating their own sounds and music. Traditional instruments are the shape and size and made of the materials they are because of the sound that they need to make. If you want





to make a sound like a plucked string, you need a string and it needs to be under tension, whereas with a Skoog, because it's a mixture of software and a sensor, then thus the computer can handle making the sound. And so we can design an object that's designed to be touched and designed to be played with. In developing the screen and working with kids in the schools and in the classrooms, it's really helped us make the Skoog something that's usable by the children themselves. They've informed us massively on how it needs to work and they've given their opinions on colors and designs. And just the feedback they've given to us has been just marvelous. It's just so enriching and it's really inspiring to actually work with these kids, particularly when you can provide them with an ability to start to playing their own music as opposed to just taking part through listening and listening to other musicians and really learning from.

45. In today's lecture I'm going to talk about changes in air pollution since the middle of the last century and what has created these changes. So, um - by the 1950s, air pollution was very visible with frequent thick black fogs known as 'smogs' in many large cities around the world. The main source of this pollution was from factories and it caused severe health problems. For example, a particularly severe smog in London in 1952 caused over four thousand deaths. Obviously, something had to be done and in 1956 a Clean Air Act was introduced in Britain. This addressed the pollution from factories and the smogs soon disappeared. However, as you know, these days air pollution is still a big issue. The main difference between now and the 1950s is that you can't see it - it's invisible. Also, the main source of pollution now is from cars and lorries, and although these don't produce visible signs, this air pollution is still a significant risk to health. And one of the key factors in the rise of this type of pollution is that we have all become much more vehicle-dependent.



There are far more cars and lorries, trains and planes than in the 1950s and this is now the main source of air pollution around the world.

46. The western countries women are becoming more and more reluctant to give birth to babies. However, the male's status in society remains as strong as it ever has in recent years. The birth rates increased during 20's century but it starts to decrease over these last two decades. In the year 2000, as an example, the birth rate remained at around 1%. There are even some negative birth rates in other countries. Birth rates dropped to its lowest point that has never been seen in the society. It also has impacts on male in the society especially young man, and it might have some connection with unemployment rates as well.
47. Most Americans take energy for granted. But, for many families, maintaining access to reliable and affordable energy is a persistent challenge and a significant material hardship. This is a problem referred to as energy insecurity, and it affects millions of American households each year. We have found that energy insecurity is a growing and vexing problem among low-income households, and the COVID-19 pandemic has made this problem worse. Our analysis finds that there are disparities in rates of energy insecurity across various socio-demographic groups. Black and Hispanic households, for example, are significantly more likely to experience energy insecurity and face utility disconnection than white households. So too are households with young children, individuals that require electronic medical devices, and those in dwellings with inefficient or poor conditions. Households that cannot pay for energy are unable to power electronic learning or medical devices, keep perishable, healthy food in the refrigerator, or maintain safe body temperatures. Under conditions of extreme heat or cold, people can suffer from mental and physical health consequences, including the possibility of



death. Strategies for coping with uncomfortable temperatures, such as burning trash or sitting in one's car with the heat running, can lead to tragic outcomes as well. Our research underscores the importance of public policy that targets energy insecurity and its underlying causes. Weatherization assistance, incentives for residential solar power, energy bill assistance, and utility disconnection protections are all viable strategies for helping the millions of households across the country that are currently unable to pay their energy bills.

48. Last week we talked about how people recognize objects and really how well people recognize objects, given how difficult the problem is, given how objects can be seen in all different sorts of illumination, in different positions, in different angles. And yet we are able to extract that information, we are able to take the visual stuff out there, interpret it in a way that allows us to recognize all the different things that we can see in our environment. Today we're gonna kind of carry on looking at that, but we gonna look at what's really a special class of objects. That's the human face. So we gonna look at how we recognize human faces and how we do it quite as well as we do. We're really expert at recognizing faces. So again we can think about how do we take that visual information and how do we transform it into a form which allows us to put a name to a face, and to do all the other clever things that we can do with faces. So I'm gonna start off again by just pointing out that it's a hard problem. Face recognition is a hard problem, and it's a clever thing we do. If you think about all the different types of faces you can recognize, and all the different types of information you can get from the face, you kind of start to appreciate how well we can do face recognition.
49. There comes a time in a desert ant's life when a piece of food is too large to ignore, but too heavy to lift, and the only way to get it home is to adopt a



new style of walking. The long-legged and speedy *Cataglyphis fortis* normally covers ground with a three-legged stride that moves two legs forwards on one side, and one on the other. For the next step, the insect mirrors the move with its other three legs. But recordings of ants in the Tunisian desert reveal that when faced with oversized lumps of food 10 times their own weight, the forward "tripod" walking style is abandoned. Unable to lift the morsels in their mandibles, the ants drag the food backwards instead, moving all six legs independently. "This is the first time we have seen this in any ants," said lead author Sarah Pfeffer at the University of Ulm in Germany. The ants' long legs already help keep their bodies away from the scorching desert floor and enable them to speed around at up to 60cm per second. "Think of Usain Bolt, who has very long legs compared to body size. The desert floor is also very hot, so the further away their bodies are from the surface, the better," said co-author Matthias Wittlinger. The ants have also evolved to function at body temperatures of 50C in a desert where temperatures can soar to 70C. "They're basically just trying to get out of the heat," he added.

50. A picture of Flinders Station and a female speaker speaking fast. Melbourne is a beauty city, but can be better. Industrialization is mentioned, which has changed people's lives. People used to go to only near places, but now people who don't have their own vehicles can go further because public transportation help them travel long distance. It's important to do.....Diversity contributes a lot to the market and its culture.
51. According to the World Health Organization, 400 million people worldwide have no access to essential health care. That's a staggering number of people. Some of those services include things like basic sanitation and clean water, prenatal care, and vaccinations or immunizations for children. Many things contribute to this crisis. Sometimes people live to remotely to get timely



care if emergency occurs. Even when living in a city, the patient to doctor ratio can be as high as 50,000 people to just one doctor, making it impossible for that doctor to meet the demands of health care in that area. These are valuable people made in the image of God who are physically suffering. Many of them go without a personal relationship with Christ. So, we do this with a week of hands-on training, consisting of a variety of topics like basic sanitation and hygiene, taking vital signs, wound care and infection prevention, basic birth assisting and emergency skills. Those who participate in the training then have practical skills in supplies to care for others in their community in a way that glorifies God and opens the door for sharing the gospel in a new way.

52. During this time my goals are going to be to talk about the phenomenon that we may share impart with other animals, and our language and that is emotion. And also talk about some new technology, brain imaging, functional magnetic imaging. And we try to answer some very old questions about howls does motivation and emotion work. I'm going to put you with the scenario first and some of you may be familiar with. This was developed by Pavlov over a century years ago. And in this scenario the dog presented with the sound, the dog waits, and then feeds food powder and this happened repeatedly, things start to happen in the middle of the experiment there. Interesting things start to happen here. Pavlov's study was on the salivation of the dog, the salivation increases more time to paralyzes. But other things happened here, too. You have a dog move around here more, all kinds of things are going on here. What we trying to capture was the experiment 11m going on to describe today is what is going on in the brain to generate that state which we called it competitive state. But you can also think about state in terms of how the dogs' feeling layer, how you feeling about eating lunch today.



53. Today we're going to recount heroic tales of superhuman feats of strength, when in the face of disaster, some people are said to have summoned up incredible physical power to lift a car off of an accident victim, move giant rocks, or like Big John of song, single-handedly hold up a collapsing beam to let the other miners escape. Are such stories true? There are many anecdotes supporting the idea, but we're going to take a fact-based look at whether or not it truly is possible for an adrenalin charged person to temporarily gain massive strength. In proper terminology, such a temporary boost of physical power would be called hysterical strength. The stories are almost always in the form of one person lifting a car off of another. In each of these cases, some aspect of leverage or buoyancy probably played some role in reducing the magnitude of the feat to something more believable. And even lifting many cars by several inches still leaves most of its weight supported by the suspension springs. But our purpose today is not to "debunk" any of the specific stories. The majority of them are anecdotal, and interestingly not repeatable; in many cases, the person who summoned the super strength later tried it again only to find that they couldn't do it. Basically, what we have is a respectably large body of anecdotal evidence that suggests that in times of crisis, danger, or fear, some people have the ability to temporarily exercise superhuman strength.
54. All of my research and that I conducted was my 60 plus graduate students, was motivated by their need to learn, so that we can teach. Of course, in some inventions happened along the way but I've always considered the end the result. And I always consider that this invention to be byproduct, byproducts of the learning process. The end product for me was always better understanding or when one really succeeded in unifying theory that can help us in teaching the subject. I've also looked at teaching as a vehicle





to try new ideas, of new ways to doing things on an intelligent group of learners. That is as the vehicle for the teaching research results. And in my experience, this kind of teaching is the most stimulated and motivating to students. I am also uncovered many interesting research problems is the cause of teaching assumption. It is this unity of research and teaching their close connection and the benefits gathered by exercising and the interplay that to me characterizes the successful professor.

55. The Earth's temperature is rising. And as it does, springtime phenomena—like the first bloom of flowers—are getting earlier and earlier. But rising temperatures aren't the only factor. Urban light pollution is also quickening the coming of spring. "So temperature and light are really contributing to a double whammy of making everything earlier." Richard French-Constant, an entomologist at the University of Exeter. He and his colleagues compiled 13 years of data from citizen scientists in the U.K., who tracked the first bud burst of four common trees. Turns out, light pollution—from streetlights in cities, and along roads—pushed bud burst a full week earlier. Way beyond what rising temperatures could achieve. This disruptive timing can ripple through the ecosystem. "The caterpillars that feed on trees are trying to match the hatching of their eggs to the timing of bud burst. Because the caterpillars want to feed on the juiciest and least chemically protected leaves. And it's not just the caterpillars, of course, that are important. But the knock-on effect is on nesting birds, which are also trying to hatch their chicks at the same time that there's the maximum number of caterpillars." So earlier buds could ultimately affect the survival of birds, and beyond. The findings are in the Proceedings of the Royal Society B. The world's becoming increasingly urbanized, and light pollution is growing—which French-Constant says could trick trees into budding earlier and earlier. But smarter lighting—like LEDs that



dial down certain wavelengths—could help. "Perhaps the exciting thing is, if we understand more about how light affects this bud burst, we might be able to devise smarter sort of street lighting that has less red components, and therefore less early bud burst." Thus keeping springtime an actual springtime phenomenon.

56. In 1943, what became known as the Green Revolution began when Mexico, unable to feed its growing population, shouted for help. Within a few years, the Ford and Rockefeller Foundations founded the International Rice Research Institute in Asia, and by 1962, a new strain of rice called IR8 was feeding people all over the world. IR8 was the first really big modified crop to make a real impact on world hunger. In 1962 the technology did not yet exist to directly manipulate the genes of plants, and so IR8 was created by carefully crossing existing varieties: selecting the best from each generation, further modifying them, and finally finding the best. Here is the power of modified crops: IR8, with no fertilizer, straight out of the box, produced five times the yield of traditional rice varieties. In optimal conditions with nitrogen, it produced ten times the yield of traditional varieties. By 1980, IR36 resisted pests and grew fast enough to allow two crops a year instead of just one, doubling the yield. And by 1990, using more advanced genetic manipulation techniques, IR72 was outperforming even IR36. The Green Revolution saw worldwide crop yields explode from 1960 through 2000.
57. So, when we talk about the polar regions, just to clarify exactly what we mean. And we have first of all the Arctic at the top of the earth and the Antarctic at the bottom, and so the Arctic was named after the Greek word for bear. Now surprisingly it's not after the polar bears that live in the Antarctic or live in the Arctic and based on it's after the little and great bear constellations that can be seen in the sky. Now the Greek also hypothesize



that there would be the Anti-arctic, which is how we get the name Antarctica and of course it wasn't discovered until much later on. Now these regions are opposite in many ways other than just their names and their location on the globe, and so if we look at the arctic first of all, and the Arctic is actually ocean surrounded by land, and so you can see here this is the UK down here and this kind of Russia and then American Canada around here, and so there is a bit of land cover in our ice on the top in the Arctic, which is Greenland here and Macie all this area here. Surprisingly a lot of people don't realize that this isn't actually land. The north pole isn't on land. It's just one big ocean.

58. I have said before that you can't have a civilization that doesn't have art. When we think about the great civilizations historically, all of them had great production of culture and art, because a society has to be able to observe itself. And the sophistication of the great civilizations were their ability to look at themselves and what allows a society to do that. Are the producers of Art and Culture mirror back to the core of the society? Exactly what is being produced at that moment? How people are thinking of themselves and how individuals are relating to the social structure at that time? Art is the vehicle through which we understand that. Were you to take away art? What would be that mirror? How would we see what we are about? How would we understand what was going on in Paris at the time of the impressionists when people were learning to see in a completely different way. Pre cinematograph appear all of these things are just emerging and here are people looking at the world in a very different way which was considered so radical at the time.
59. There is a picture, sort of artist's impression, before the space age of what Venus might be like on its surface and so this was looking at the planet Venus, it was science fiction and science fact all the way up to 56 before the start of the space age but it wasn't completely disproved, this idea of a really sort of



lush environment on Venus until 1967, which is when the first measurements in detail were done at Venus. So Mariner four and Mariner five confirmed the feeling from an earlier space mission that in fact the surface of Venus was not like this at all, but extremely hot and, and also that the clouds were made of sulfuric acid so there wasn't a nice water cycle like is going on in this picture and so, that it had to wait for these in situ measurements by space craft to actually do that and so Venus turned out not to be quite as Earth like as we thought and I'll sort of tell you about some of the latest results from Venus Express, which, which they actually there are some Earth like features, but to a large extent, it's not like the Earth. Okay, so a brief comparison between.

60. This is a kind of object that you're probably all familiar with when you had the term robot, but I'm gonna show you the very, very first robots. These were the very first robots. They were characters in a play in the 1920s called Rossum's Universal Robots and they, the play was written by Czech writer called Karel Capek. And basically, these robots, you know, people tend to think of robots as kind of cute cuddly toys or, you know, Hollywood depictions kind of devoid of politics. But the first robots were actually created and imagined in a time of absolute political turmoil. You just had the First World War, you know, it finished had a devastating impact across Europe and so people will kind and people are kind of reflecting on what does it mean to be human, what makes us human, those kinds of question. And this kind of context is what inspired Capek to kind of write this play. And interestingly, these robots being human, they are actually in the play assembled on a production line, a bit like the Ford manufacturing production line. So even though they are human, they are assembled and these robots are designed to labor, and that is their primary purpose in society.



61. This is one picture that you probably you all know what it is when you see it. It's a familiar-looking image. It's something that probably we all have some personal experience with, right? This is a chest X-ray that would be taken in your doctor's office, for example, or a radiologist's office. And it is a good example of Biomedical Engineering and that it takes a physical principle, that is how do X-rays interact with the tissues of your body, and it uses that physics, that physical principle to develop a picture of what's inside your body, so to look inside and see things that you couldn't see without this device. And you'll recognize some parts of the image, you can see the ribcage here, the bones you can see the heart is the large bright object down here. If you, have good eyesight from the distance, you can see the vessels leading out of the heart and into the lungs, and the lungs are darker spaces within the ribcage.
62. Climate change, some adverse effects of climate changes to agricultural productions. Some lands are unsuitable for growing crops. There will be millions of people facing hunger in Africa in the future. Climate change will result in less production and less food. It is difficult for developing countries to deal with climate change due to their financial status and other issues. There are many people living in hunger especially in Africa. The climate change has devastating effects on world economy. The tropical areas on earth are dry and hot, and are originally not suitable for food production. The change of the climate leads to extreme weather conditions such as flood and hurricane, which exacerbates the food production. As a result, it leads to a continuous decline in food supply annually around 10- 17%. And this trend is perceived to be continue in the future by 2070. The regions suffering the most will be some African countries.



63. Our friends at the Highlands Museum and Discovery Center in Ashland, Kentucky, asked a very good question. Why is it dark in space? That question is not as simple as it may sound. You might think that space appears dark at night because that is when our side of Earth faces away from the Sun as our planet rotates on its axis every 24 hours. But what about all those other far away suns that appear as stars in the night sky? Our own Milky Way galaxy contains over 200 billion stars, and the entire universe probably contains over 100 billion galaxies. You might suppose that that many stars would light up the night like daytime! Until the 20th century, astronomers didn't think it was even possible to count all the stars in the universe. They thought the universe went on forever. In other words, they thought the universe was infinite. Besides being very hard to imagine, the trouble with an infinite universe is that no matter where you look in the night sky, you should see a star. Stars should overlap each other in the sky like tree trunks in the middle of a very thick forest. But, if this were the case, the sky would be blazing with light. This problem greatly troubled astronomers and became known as "Olbers' Paradox." A paradox is a statement that seems to disagree with itself. To try to explain the paradox, some 19th century scientists thought that dust clouds between the stars must be absorbing a lot of the starlight so it wouldn't shine through to us. But later scientists realized that the dust itself would absorb so much energy from the starlight that eventually it would glow as hot and bright as the stars themselves. Astronomers now realize that the universe is not infinite. A finite universe—that is, a universe of limited size—even one with trillions and trillions of stars, just wouldn't have enough stars to light up all of space. Although the idea of a finite universe explains why Earth's sky is dark at night, other causes work to make it even darker.







64. 3 stages of Brain development- brain development during childhood, there are three stages, starting from the primitive brain (the action brain), limbic brain(feeling brain), and finally to the neocortex (thought brain).Although interrelated, the three had its own function. Primitive brain functions to manage the physical to survive, manage reflex, motor motion control, monitoring body functions, and process information coming from sensing. Limbic brain functioning as a liaison to process emotions and the brain thinks, and the primitive brain. While the thinking brain, which is the most objective part of the brain, receiving input from the primitive brain and the limbic brain. However, he needed more time to process information from the primitive brain and the limbic brain. The brain thinks the merger is also a place of experience, memory, feeling, and thinking ability to give birth to ideas and actions. Nerve myelination of the brain take place in sequence, starting from the primitive brain, the limbic brains, and brain thought. Neural pathways are more frequently used to make more myelin thicken. Increasingly thicker myelin, the faster the nerve impulses or signals travel along nerves. Therefore, a growing child is encouraged to receive input from the environment in accordance with its development.
65. I believe our borders should be open. But if that is not politically acceptable for now, Europe should at least open up a legal route for people from developing countries to come work here. Over time, hopefully, we can move to a position where borders are completely open. Persuading sceptics won't be easy. That's why I think the argument for free migration has to be made at several levels: a principled case: it increases freedom and reduces injustice; a humanitarian case: it helps people much poorer than ourselves; an economic case: it makes us richer; and a pragmatic case: it is inevitable, so it is in everyone's interests to make the best of it. Freedom of movement is not just a





matter of human rights and international solidarity; it is in our self-interest. Opening our borders may seem unrealistic. But so too, once, did abolishing slavery or giving women the vote. Campaigning for people's right to move freely is a noble cause for our time.

66. Haussmann's renovation of Paris was a vast public works program commissioned by Emperor Napoleon III and directed by his prefect of the Seine, Georges-Eugene Haussmann, between 1853 and 1870. It included the demolition of crowded and unhealthy medieval neighborhoods, the building of wide avenues, parks and squares, the annexation of the suburbs surrounding Paris, and the construction of new sewers, fountains and aqueducts. Haussmann's work met with fierce opposition, and he was finally dismissed by Napoleon III in 1870; but work on his projects continued until 1927. The street plan and distinctive appearance of the center of Paris today is largely the result of Haussmann's renovation. In the middle of the nineteenth century, the center of Paris was overcrowded, dark, dangerous, and unhealthy. In 1845 the French social reformer Victor Consider ant wrote "Paris is an immense workshop of putrefaction, where misery, pestilence and sickness work in concert, where sunlight and air rarely penetrate. Paris is a terrible place where plants shrivel and perish, and where, of seven small infants, four die during the course of the year." The street plan on the Tie de la Cite and in the neighborhood called the "quartier des Arcis", between the Louvre and the "Hotel de Ville" (City Hall), had changed little since the Middle Ages. The population density in these neighborhoods was extremely high, compared with the rest of Paris; in the neighborhood of the Champs-Elysees, there was one resident for every 186 square meters; in the neighborhoods of Arc is and Saint- Avoye, in the present Third Arrondissement, there was one inhabitant for every three-square meters. In 1840, a doctor described one building in the



tie de la Cite where a single room five meters squares on the fourth floor was occupied by twenty-three people, both adults and children. In these conditions, disease spread very quickly. Cholera epidemics ravaged the city in 1832 and 1848. In the epidemic of 1848, five percent of the inhabitants of these two neighborhoods died. Traffic circulation was another major problem. The widest streets in these two neighborhoods were only five meters wide ; the narrowest were only one or two meters wide. Wagons, carriages and carts could barely move through the streets. The center of the city was also a cradle of discontent and revolution between 1830 and 1848, seven armed uprisings and revolts had broken out in the Centre of Paris, particularly along the Faubourg Saint-Antoine, around the Hotel de Vi Ile, and around Montagne Sainte Genevive on the left bank. The residents of these neighborhoods had taken up paving stones and blocked the narrow streets with barricades, and had to be dislodged by the army.

67. Let's take a look at this video of these little kids they were offered the option of having one marshmallow immediately now or two marshmallows 15 minutes later and you've got some very cute video tape of this experiment. So let's take a look okay, what we found is a very simple and direct way of measuring a competence that seems to make an important life difference a researcher tells these preschoolers that she's going to leave the room if they wait for her to come back without eating the marshmallows. They'll get two marshmallows or they can ring the bell and she'll come back right away but then they only get one marshmallow. I would baby though you won't ring the bell. okay, looking at children over time. Dr. Michelle has found that being able to wait longer at four has some pretty powerful implications and what are those powerful implications is that that later in life. They're more discipline and have more self-control is that pretty much it. Well, they are more likely to achieve



their life goals. They have better relationships. They did better on their SI is crazy all because they waited 15 minutes for don't wash me, and I think it is crazy. I probably would have eaten all three but yeah me too. But um you know actually yes, the ability to be able to pursue your goals in this case it was stabbed two marshmallows versus one and not going automatic and just grabbed the marshmallow is a very important skill, but I think a main point in mind in the making is that these skills can be caught, taught if you're 14 or 40 or four it's not ever too late and any child can learn the many adults can teach them and it's never too late.

68. Welsh is a Celtic language spoken in Wales by about 740,000 people, and in the Welsh colony in Patagonia, Argentina by several hundred people. There are also Welsh speakers in England, Scotland, Canada, the USA, Australia and New Zealand. At the beginning of the 20th century about half of the population of Wales spoke Welsh as an everyday language. Towards the end of the century, the proportion of Welsh speakers had fallen to about 20%. According to the 2001 census 582,368 people can speak Welsh, 659,301 people can either speak, read or write Welsh, and 797,717 people, 28% of the population, claimed to have some knowledge of the language. According to a survey carried out by S4C, the Welsh language TV channel, the number of Welsh speakers in Wales is around 750,000, and about 1.5 million people can 'understand' Welsh. In addition, there are an estimated 133,000 Welsh--speakers living in England, about 50,000 of them in the Greater London area.
69. So the way a mother rat takes care of its pups is by licking and grooming, nipple switching and arch back nursing. So the rats that do a lot of licking and grooming and their last rats that rule very little. But most rats are in between. So that resembles a human behavior as well, right, you have mothers that are highly mothering and mothers that couldn't care less and most mothers



are somewhere in between. So if you look at these rats. So all you do you observe them and put them in separate cages. So you put the high lickers in one cage not the mothers, but the offspring and the low lickers in another cage and then you let them grow and they're adults now, their mothers are long buried and you look in the brain and you see that those who had high licking mothers express a lot of glucocorticoid receptor, gene and though so our lawmakers express know that reflects a number of factors and that results in a different stress response, but this is not the only difference. We found later on there are hundreds of genes that are differently expressed. So if you get in a mutation, you know polymorphism once in a million. Here, just the motherly launching just hundreds of genes in one shot and it changes them in a very stable way that you can look at the old rat and you can say whether it was licked or not. But you can also save by behavior. So if you walk to the cages to the room the rats that were poorly lit are highly anxious, hard to handle, aggressive, and , and the rats that were very well handled as off as little pups. They are much more relaxed much easier to handle. So you know, like every technician in the lab knows looking at the adult rat how it was licked when it was a little tough any question , of course, mechanism , how does this work?

70. This is a bomb calorimeter; this is the actual piece of equipment that researchers used to calculate the energy content of either biodiesel or maybe even the potato chips that you had for lunch today. When they calculate the amount of energy. They're going to calculate it in heat unites which would either be joules or calories. I want you to look inside the bomb calorimeter inside here, you can see that there's a silver bucket water goes all in here and this is actually the bomb is the smaller silver cylinder what you do is put your fuel sample in there then these two electrodes are connected to the bomb. These provide the spark that will ignite your sample when your sample burns



or combust that gives off energy. So how is the energy collected or how did a scientist figure out how much energy is being given off. Well, it's a closed system, there's a lid here that goes on top of this calorimeter and what's in here in the lid is a stirrer. The stir is going to stir the water. That's in this big pool here so that the heat given off from the sample is going to warm the water in a uniform way. This is the temperature probe, this goes down in the water also and measures the change in temperature because as the sample is burned, it will give off heat and the temperature the water will increase. So the lid goes on the sample is prepared. The last thing that you need to make a combustion reaction happen is oxygen and at some point, during the process, some oxygen is added by a tank. That's connected to the calorimeter here. So we are going to burn a sample of the biodiesel that you've prepared and get some feedback on the energy content of it. You'll be able to use this to compare it to petroleum-based fuels like octane.

71. The brain is basically built from the bottom up first the brain builds basic circuits that are responsible for basic skills, and then more complex circuits are built on top of those basic circuits as we develop more complex skills. Biologically, the brain is prepared to be shaped by experience. It's expecting the experiences that a young child has to literally influence the formation of its circuitry it's built into our biology. The interaction between genetics and experience that shapes brain architecture is embedded in a reciprocal relationship, the relationships that children have with the adults in their lives. And by that we mean what we refer to as the serve-and-return nature of children's interaction with their adult's development. And the impact of experience on development is not a one-way street. It's a back-and-forth interaction. The brain is a highly integrated organ which has multiple sections that specialize in different kind of processes, so we have parts of the brain





that are involved more in cognitive function and other parts that are involved in processing of emotion and parts involved in seeing and hearing. So if a child is emotionally kind of...well...put together and socially competent, that will affect more positive and productive learning. And if a child is preoccupied with fears or anxiety or is dealing with considerable stress no matter how intellectually gifted that child might be, his or her learning is going to be impaired by that kind of emotional interference.

72. This phenomenon of conservation is explained by what we call the first law of thermodynamics, sometimes referred to as the law of energy conservation. The law states, energy cannot be created or destroyed. Energy can be described as the ability to do work, where work is the movement of matter when a force is applied to it. A closed system is a system in which no matter or energy is allowed to enter or leave. The first law of thermodynamics tells us that the amount of energy within an ecosystem is constant. It doesn't change. An open system, on the other hand, allows stuff to come in and go out. Since most systems are not closed, the laws of energy conservation can be rephrased to say that the change in the internal energy of the system is equal to the difference between the amount of energy coming in, minus the amount of energy going out. In other words, the amount of energy in the system can change but only if it comes from another system or goes to another system. At any rate, systems, whether they're open or closed, do not create or destroy energy. Rather, energy can enter from one system and leave to another.
73. Wind turbine is a device that will convert wind into mechanical movement, which we can use to power water pump or electricity generator. Now the power that the turbine creates is obviously depended on the wind speed, it also depended obviously on the number of sails, the area of the sails and the angle of the sails makes to the wind. So you can imagine if the turbine blades



flat onto the wind, the wind's going to just bend it, if there is slight angle when the wind hits it, it's going to turn the blades. We can use that for powering things. Now, we're going to have a go, making some of the very, very simple paper windmills, a sort of things that you can make from the bits and pieces lying around home, and use that to drive very small generator to power electronic devices.

74. Many parents communicate and educate their children with two languages, probably because they both know more than one language, or they come from different countries. Most of these parents think this can benefit their children's language learning. But actually, kids will get confused when their parents use different languages from each other to describe the same object. If one parent sticks to one language, and the other one sticks to another language, their children will not be confused any more.
75. Uniquely stable, they seemed to participate in no chemical reactions. But by understanding the stability of the noble gases, physicists discovered the key to chemical bonding itself. Dmitri Mendeleev added the noble gases to his periodic table in 1902, where he arranges the elements in rows and columns according to their atomic weight. Mendeleev was able to see repeating or periodic patterns in their properties. The noble gas appeared regularly in the periodic table, occurring in every eighth position, at least amongst the lighter elements.
76. A PPT is given, and you can read it accordingly. This lecture compares the conditions on the earth and Mars, as well as the habitability of Mars. There are some similarities such as polar caps, atmospheres and water climate. But Mars and the earth also have lots of difference. Even the most inhabitable areas on the earth are way different from those on Mars. In preparing for the Phoenix Mission, scientists have done Antarctica trial runs. The lecture also



describes different forms of water (hydrology) on the surface and underground of the earth and Mars.

77. A concise PPT which can be read directly as a response to this question. We normally see blogging as a two-way interaction, in which the blogger/author creates the content and the readers interact or challenge the author. But the case will be much difficult when it comes to government, such as the White House. Because people will become coarser and ride online, especially in the comment area. Hence the governor blog may go wild and chaotic.
78. Okay. So this is the this is the big benefit of a universal philosophy. It says it applies to everybody. Well, looks that doesn't, you know, 205 or 206 countries in the world. And you've got something that applies to everybody. That's a bit strange, isn't it? No, says liberal theory. There are same value structures that apply to all of us. You couldn't have the United Nations without it. It couldn't tell you that the Universal Declaration of Human Rights without this idea of values that apply to all of us just because we are humans. Now, the idea is to test that as well. Why is sport universal? Why does everybody play football? It's because the values are specified at a very thin level at the top. There are these rules and we all have to abide by just these rules. But there are lots of things about football that aren't rules specified. So Brazilian football is different from Italian football, from British football, from German football, from Spanish football. It's culturally specific, but acknowledges that there are these universal general rules to apply to everybody.
79. Today, I wanna talk about an important aspect of education which is the education expenditure of the UK, compared with other European countries. Based on a recent paper published in the economist journal, UK has only spent 1% of its total GDP on tertiary education, which was insufficient as compared with other European countries such as Finland and Denmark. For



instance, the expenditure of Spain is close to the UK in some cases in 2007 and this survey conducted among 50 major cities around the country. However, Denmark and Finland spent much more than the other European countries. So, if we decide to compare the education expenditure of the UK with various developing countries, we will find mindboggling figures in this regard compared to the other countries.

80. Traffic light colors (red, amber and green) are used to indicate food's nutritional values according to the healthy standard. Different colors represent different food types, so that people can determine what to eat when they need some certain types of nutrient. The responsibility to label food properly on the packages is on the retailers. Thus consumers can be aware of food with less salt or less fat. This system makes it easier for consumer to make decisions.
81. But Aristotle says the reason we need rhetoric is we have to be able to use it. To use rhetoric influence the ramble, we try to get them to understand truth. Truth is suggest ... is different than XX Rhetoric is the dressing, is the body, right? Truth is the spirit, is the soul, is abstract. It doesn't have a body. It's not particular. If you wanna get somebody to the truth, you might have to use some kind of tricks. Right? Because most of people are not sound and can see the truth. That's what we think. Most people are rambles. Really. Only the educated be erudite are actually capable of seeing the truth. If you wanna get the general mass there, you may have to do a little bit. So Aristotle that is rhetoric. Rhetoric is something that is used to influence people. Right? And it's a kind of mentally promised a logic.
82. Happiness comes from frequency and quality of social relation. The higher the frequency is, the more happiness relations with friends and family and others produce. It is not sure why social relation is correlated with happiness. But



there's evidence that when people feel more satisfied with their social relations, they will feel happier, in turn, when people feel happier, they will get more satisfied with social relations. Happy people tend to be social more with friends and have more interaction between family. Some people wonder if their social activities make them happier or their happy personalities drive them to be social more with their friends and families.

83. The impact on young Australians who are interested in buying a home of their own has been very significant. Australia's housing affordability now shapes the typical housing cycle or housing career as some people call it. Most Australians in the normal course of events are people who move through the housing cycle in a way that matches the stages of life that they're at. So, they move out of the family home in their late teens or early 20s as they gain their independence from their families, then they rent save for a home they can afford as either a group, or maybe a couple. And maybe they can upgrade it when they have a family in their middle age, they are more than likely to have paid off their mortgage. And that means they have housing security in their old age. That's no longer the typical housing cycle for Australians, young people generally live at home for much longer than they once did. They generally rent for longer and they're more likely to be saddled with a mortgage not just into their middle age but more often than not into their retirement as well. In fact, in 2006, 65,000 retiree households were still paying off the mortgage. Affordable rent is also an elusive right around Australia. We have very low rental vacancies, we see high turnover as landlords want to maximize their profits in tight market, and we see less long-term or lifelong rental, as we see in other countries and other economies.
84. One of the social issues faced by the state of Alaska is the lack of mental and emotional well-being of the native Alaskans. It is very unfortunate that many



of the Native Americans are living under poor conditions throughout the country. In the cases of native Alaskans, even virtually entire villages are suffering from a lack of mental and emotional well-being, which includes continuing poor physical and mental health. Alcohol abuse, domestic violence, homicides, and suicides are frequent among them, which of course, lead to families falling apart. It is tragic to see that many children are abused and not educated properly. As a matter of fact, the children themselves are abusing alcohol and other chemicals, and the rate is increasing over the time. Since parents are suffering from mental illnesses and alcohol abuse, they can't take care of their children, so many children are being taken care of by others or simply neglected. Therefore, we can conclude that Alaskan natives are losing hold of their communities, cultural identities, and most importantly, their childhoods. So you can see how serious the issue is. Plus, rather than making a living for themselves, they are depending on public services and subsidies. They have lost control of and responsibility for their economy and governing institutions.

85. About HFSS (food high in fat, sugar and salt) An organization, ASA (Advertising Standard Authority), is introduced, and it helps consumers make healthy decisions in buying food and drinks, also helps consumers identify the food contents in the labeling, like sugar, salt.
86. I'm just going to take on where stuff left off. The hormone I want to now talk about it's called melatonin. The synthesis is in the Pineal Gland, which is very small. It is the size of a pea in your brain. Descartes called it the 'seat of soul', and it is where melatonin is made. And it has a rhythm as well. And in the sense, it is the opposite of the cortisol. It peaks at night. We call it as the darkness hormone. In every species that we studied; melatonin occurs at night. And its hormone that prepares you for the things, that your species,





does at night. So, of course, in humans we sleep, but animals, like rodents, they are awake. So, it's a hormone that is related to darkness behavior.

87. Honey bees do a waggle dance to direct other bees to the source of nectar. The dancing bees like this one can be halted by a headbutt from another bee. Now research has found that this headbutt is actually a warning signal. A feeding station was set up in the lab to mimic a source of nectar, then foraging bees were introduced to the dangers at the station, such as competition from rival colonies. When foragers returned to the hive, they stopped bees dancing. Scientists think the behavior warns dancers of a dangerous source of nectar.
88. Protons are finally transferred to the LHC (both in a clockwise and an anticlockwise direction) where they are accelerated for 20 minutes to 6.5 TeV. Beams circulate for many hours inside the LHC beam pipes under normal operating conditions. For each collision, the physicist's goal is to count, track and characterize all the different particles. The charge of the particle, for instance, is obvious since particles with positive electric charge bend one way and those with negative charge bend the opposite way. Also, the momentum of the particle can be determined. Large Hadron Collider (LHC) is the world's largest particle accelerator lies in a tunnel. The LHC is a ring roughly 28km around that accelerates protons almost to the speed of light before colliding them head-on. Protons are particles found in the atomic nucleus, roughly one thousand-million-millionth of a meter in size. The LHC starts with a bottle of hydrogen gas, which is sent through an electric field to strip away the electrons, leaving just the protons. Electric and magnetic fields are the key to a particle accelerator.
89. Straight salary sales compensation plans aren't very common, but they do have a place in some organizations. With this type of structure, you'd pay your



sales people a straight albeit competitive salary like all of your other employees, and nothing else. No bonuses, no commissions, and few, if any, sales incentives. This type of compensation plan is most often used when the industry you operate within prohibits direct sales, when sales people work as part of small groups or teams and all contributions are equal, when your sales team is relatively small, or when your sales people are expected to spend much of their time on other responsibilities other than selling. However, these plans don't tend to offer motivation to sales people, as there are no incentives for them to work harder. Salary plus commission sales compensation plans are possibly the most common plans used today. They're structured in a way that sales people receive a lower base salary along with commission pay that makes up the majority of the total compensation. Organizations use salary plus commission sales compensation plans when there are opportunities to support all sales people on this structure and when there are proper metrics in place for tracking sales to ensure that the splits are fair and accurate. This type of plan is often the better choice as opposed to straight salary because it offers motivation to increase productivity and to achieve goals. It also offers more stability. Sales people will still get some types of pay even if they're in training, when sales are low during certain months, or if market conditions get volatile. However, it can be more complex to administer. Commission only sales compensation plans are exactly what they sound like you pay your sales people for the sales they bring in and nothing else. There is no guarantee of income. These types of plans are easier to administer than salary plus commission and provide better value for your money paid as they are based solely on sales achieved. They also tend to attract fewer candidates, but do attract the most top-performing and hardest working sales professionals who know they can make a good income because they know how to sell. On the



other hand, though, they can create aggression within your sales team and low-income security, which can lead to a high turnover rate, and sales rep burnout from stress.

90. We can ask 2 fundamental questions about animal behavior they referred to as proximate and ultimate. Proximate questions are those concerned with the mechanisms that bring about behavior. Ultimate questions are those concerned with the evolution of behavior. We can divide the proximate and ultimate into 2 sub-questions. For proximate, how does behavior develop and secondly what causes the behavior. For ultimate, you can ask how did the behavior evolve and secondly what is the adaptive of significance of the behavior. What's its purpose? Together these comprise what are called Tinbergen's 4 questions about animal behavior. Niko Tinbergen was one of the founding fathers of the study of the animal behaviors. These questions represent different ways of studying animal behavior and understanding the difference between those 4 questions are fundamental to understanding behavior and indeed the whole of biology. How do we study animal behavior? Well, that depends on the type of question we're hoping to answer.
91. Determinant, human behavior is affected by internal and external factors. At the end of lecture, the speaker mentioned that psychologists are interested in explaining human behavior. Determinant is influenced by two factors, the personal factors which are internal and the environmental factors which are external. The personal factors include people's belief on certain things and their individual thinking about it, while the environmental factors include temperature, air pressure and the others' thinking about them. In conclusion, one's determinants are affected by both himself and the environment.
92. So, this is one picture of probably you all know what it is. When you see it, it is a familiar looking image. It is Something probably we all have some personal



experience with, right? This is a chest x-ray that would be taken in your doctor's office, for example, or a radiologist's office. And it is a good example of Biomedical Engineering and that it takes a physical principle, that is how x-rays interact with the tissues of your body, and it uses that physics, that physical principle to develop a picture of what's inside your body, so to look inside and see things that you couldn't see without this device. And you'll recognize some parts of the image, you can see the ribcage here, the bones you can see the heart is the large bright object down here if you have good eyesight from the distance, you can see the vessels leading out of the heart and into the lungs, and the lungs are darker spaces within the ribcage.

93. We usually see blogging as a two-way interaction, in which the blogger creates the content, and the readers interact or challenge the author. But the case will be much difficult when it comes to government, such as the White House. Because people will become coarser and ride online, especially in the comment area. Hence the governor blog may go wild and chaotic. So the government will have to administrate the comment. Once the government starts administrating the comment, citizens may find the government manipulating what should be said and what should be shown, which contradicts the original intention.
94. Actually, a woman in the class I'm teaching at Sydney at the moment, a career woman, expressed this very nicely, although she was talking about something else, she was distinguishing expertise from authority. And certainly linguists because of our training we do have expertise in certain very narrow areas of language, but we don't have the authority over what to do with that knowledge or what to do with other knowledge that the community produces. I guess for me the bottom line is languages are lost because of the dominance of one people over another. That's not rocket science, it's not hard



to work that out. But then what that means is if in working with language revival we continue to hold the authority, we actually haven't done anything towards undoing how languages are lost in the first place, so in a sense the languages are still lost if the authority is still lost.

95. I understand your professor has been discussing several Eastern Woodland Indian tribes in your study of Native American cultures. As you have probably learned, the Eastern Woodland Indians get their name from the forest-covered areas of the Eastern United States where they lived. The earliest Woodland cultures date back 9,000 years, but the group we'll focus on dates back only to about 700 A.D.. We now call these Native Americans the Mississippian culture, because they settled in the Mississippi River valley. This civilization is known for its flat-topped monuments called temple mounds. They were made of earth and used as temples and official residences. The temple mounds were located in the central square of the city, with the huts of the townspeople built in rows around the plaza. The Mississippian people were city dwellers. But some city residents earned their living as farmers, tending the fields of corn, beans, and squash that surrounded the city. The city's artisans made arrowheads, leather goods, pottery, and jewelry. Traders came from far away to exchange raw materials for these items. In the slides I'm about to show, you will see models of a Mississippian city.
96. For centuries, boys were top of the class. But these days, that's no longer the case. A new study by the OECD, a club of mostly rich countries, examined how 15-year-old boys and girls performed at reading, mathematics, and science. Boys still score somewhat better at maths, and in science the genders are roughly equal. But when it comes to the students who really struggle, the difference is stark: boys are 50% more likely than girls to fall short of basic standards in all three areas. Researchers suggest that doing homework set by



teachers is linked to better performance in maths, reading, and science. Boys, it appears, spend more of their free time in the virtual world; they are 17% more likely than girls to play collaborative online games than girls every day. They also use the internet more. Third, peer pressure plays a role. A lot of boys decide early on that they are just too cool for school which means they're more likely to be rowdy in class. Teachers mark them down for this. In anonymous tests, boys perform better. In fact, the gender gap in reading drops by a third when teachers don't know the gender of the pupil they are marking. So what can be done to close this gap? Getting boys to do more homework and cut down on screen-time would help.. But most of all, abandoning gender stereotypes would benefit all students. Boys in countries with the best schools read much better than girls. And girls in Shanghai excel in mathematics. They outperform boys from anywhere else in the world.

97. Why should we bother studying animal behavior? Well, first and foremost, because we are interested in understanding why animals do what they do. There are lots of other reasons for studying animal behavior. Conservation biologists need to know what animals do if they're going to save them. Are those animals social or solitary? How much space do they need and how many mates do they have? Sometimes you can't predict the outcome of the research. Fernando Nottebohm started out being interested in how birds know what to sing. Yet his research eventually led to a complete overhaul of the entire field of neurobiology, a totally unanticipated yet utterly monumental effect. And this is the course textbook by John Alcock the fact that this is in its ninth edition tells you how fast an afield animal behavior is. There are lots of new developments.
98. The sound of a cracking knee isn't particularly pleasant. But it gets worse when you listen up close. Knee-cracking recording "It does for most people.





But for me, it actually just makes me excited." Omer Inan, an electrical engineer at Georgia Tech. "I actually feel like there's some real information in them that can be exploited for the purposes of helping people with rehab." Inan's experience with cracking knees goes back to his days as an undergrad at Stanford, where he threw discus. "If I had a really hard workout, then the next day, of course, I'd be sore, but I'd also sometimes feel this catching or popping or creaking every now and then in my knee." A few years later, he found himself building tiny microphones at a high-end audio company. So when he got to Georgia Tech and heard the Defense Advanced Research Projects Agency, DARPA, wanted better tech for knee injuries, he thought: knee-cracking recording Why not strap tiny microphones to people's knees, to eavesdrop as their legs bend? "What we think it is, is the cartilage and bone rubbing against each other, the surfaces inside the knee rubbing against each other, during those movements." He and a team of physiologists and engineers built a prototype with stretchy athletic tape and a few tiny mics and skin sensors. And preliminary tests on athletes suggest the squishy sounds the device picks up are more erratic, and more irregular, in an injured knee than in a healthy one. Which Inan says might allow patients and doctors to track healing after surgery. Details appear in the IEEE Transactions on Biomedical Engineering. "The primary application we're targeting at first is to give people a decision aid during rehabilitation, following an acute knee injury, to help them understand when they can perform particular activities, and when they can move to different intensities of particular activities." A useful thing to take a crack at.

99. You can see that the two charts, each give quite a different picture of the performance of boys and girls in the two key subjects of Math and English. It shows that in English, girls consistently outperform boys over a period of 6



years, achieving scores about 10% above their male peers. There is quite a different picture when we look at the Math results with no real difference between genders in the results. What is the explanation for these key differences? To answer this question, researchers look at biological and cognitive factors, and a range of social factors. The interaction between these different components in early childhood development are seen as maintained and reinforced in the school context. And this leads to distinct gender patterns of behavior and skills with direct consequences for school performance and achievement. The ultimate uses of this evidence (are) to show that biological factors, such as patterns of cognitive developments are closely linked to social factor, such as learned gender categories. These cognitive skills are learned both pre-school and subsequently at school, supported by the responses of teachers, creating a reinforcement of patterns.

100. I've been thinking a lot about the world recently and how it's changed over the last 20, 30, 40 years. Twenty or thirty years ago, if a chicken caught a cold and sneezed and died in a remote village in East Asia, it would have been a tragedy for the chicken and its closest relatives, but I don't think there was much possibility of us fearing a global pandemic and the deaths of millions. Twenty or thirty years ago, if a bank in North America lent too much money to some people who couldn't afford to pay it back and the bank went bust, that was bad for the lender and bad for the borrower, but we didn't imagine it would bring the global economic system to its knees for nearly a decade. This is globalization. This is the miracle that has enabled us to transship our bodies and our minds and our words and our pictures and our ideas and our teaching and our learning around the planet ever faster and ever cheaper. It's brought a lot of bad stuff, like the stuff that I just described, but it's also brought a lot of good stuff. A lot of us are not aware of the extraordinary



successes of the Millennium Development Goals, several of which have achieved their targets long before the due date. That proves that this species of humanity is capable of achieving extraordinary progress if it really acts together and it really tries hard.

101. At the top, you would have a king. Now the king would rule over a kingdom. Now, this is not so easy to govern especially during the Middle Ages. And the king might owe many people, things especially people who help the king come to power, helped him dispose the previous king or to conquer this land. And so in exchange for that and to help govern, he might grant land or feasts to other people. And the key currency in the Middle Ages under the feudal system is land. And land in exchange for loyalty and service. So this whole thing is a kingdom. Now right over here, this is a Duchy. And a Duchy will be controlled by a Duke. I guess I didn't call it duckie because that just doesn't sound as serious. So the king might grant a Duchy, a Duchy to a Duke and in exchange, the Duke would provide loyalty pledged their fealty. If the kingdom is threatened, the Duke will fight alongside. The King would provide their own troops if the king wants to go conquer other territories, same thing, and also provide the king with taxes which might be in the form of coinage depending on what time and region we are in the Middle Ages or it might be in the form of a percentage of the agricultural production from this Duchy.
102. When Australians engage in debate about educational quality or equity, they often seem to accept that a country cannot achieve both at the same time. Curriculum reforms intended to improve equity often fail to do so because they increase breadth or differentiation in offerings in a way that increases differences in quality. Further, these differences in quality often reflect differences in students' social backgrounds because the "new" offerings are typically taken up by relatively disadvantaged students who are not served





well them. Evidence from New South Wales will be used to illustrate this point. The need to Improve the quality of education is well accepted across OECD and other countries as they seek to strengthen their human capital to underpin their modern, knowledge economies. Improved equity is also important for this purpose, since the demand for high-level skills is widespread and the opportunities for the low skilled are diminishing Improved equity in education is also important for social cohesion. There are countries in which the education system seems primarily to reproduce existing social arrangements, conferring privilege where it already exists and denying it where it does not. Even in countries where the diagnosis might be less extreme, the capacity of schooling to build social cohesion is often diminished by the way in which schools separate individuals and groups

103. When we have droughts, the rings were very narrow and the more extreme the narrower the ring is we're trying to identify patterns and widen their wings. You can come to think of that as a barcode in the food that you might buy in the store, trees in an area you have not exactly the same pattern, but a similar pattern of wide and narrow range just like that barcode. We get to the point where we can just look across samples okay there's 1580 and their 1735. We know where those difficult years are we able to look at the records in the rings. And from that reconstruct streamflow much further back than we can just with historical records in some areas under the best conditions were the best species we can have up to 10,000 years record from tree rings. we have maybe 5200 years historical records from the rivers around here. We have trees and go back several hundred years. If you look at the Weaver River, We have about 100 years of record. to gives us a rough idea of how long droughts of Benin have severely been but it's only hundred years record and the trees a been around for six or 700 or more years, how can they give us a



much longer record of those droughts. sometimes as we look in the tree rings we see droughts that are much longer, much more severe than anything we see in the historical record. We've had droughts that have lasted for more than a decade we had one of the last for 16 years, water managers can actually incorporate those in the forecast models to help us better prepare for droughts in future. We are excited to be able to take the information and give that water managers now because they haven't had that for the Wasatch front before.

104. As a speech-language pathologist and as a multilingual mother of bilingual children, I am finding myself shocked and confused at the number of parents I run into who have chosen not to speak their native language to their children for various reasons or who have been persuaded to believe that speaking their native language to their children will hurt them socially or academically if the primary language of the community is different. So why should parents talk to their children in their native language? The first and simplest reason is that it is the language in which they are likely to be most dominant or proficient, which in turn is the language in which they are able to provide quality language input as well as support effectively and consistently. Even if a parent is able to pick up the language of the community, that parent's vocabulary, grammar skills, and ease of communication will probably remain stronger in the native language. I've often heard of recommendations from professionals and educators for parents to stop speaking the native language so that confusion is not created, so that language delays won't occur, so that children can do well in school, but the research literature says the exact opposite! The other occurrence that appears to be more prevalent is for the native language to be spoken from birth to preschool with a sudden



shift to the community language once the child enters early intervention programs or school.

105. You could argue this kind of digital detox would be beneficial. We'd take our eyes off our screens then strike up real-life conversations with each other. We've discovered that our smartphones can actually make phone calls. We bring back fax machines. and start making notes by hand. Well, maybe not fax machines and hey, we'd still have TV to entertain us the world would not fall apart. In fact, with almost 4 billion people having no access to the Internet worldwide, half of humanity wouldn't notice a difference in the short term. But not you, mighty internet user. You would notice right away. If the internet suddenly flatlined, social media users would start calling each other on the phone overloading the working telecommunication systems, unless cell phone towers and telephone lines were also shut down. Then you'd go back to writing letters and sending them via post. Forget about Wireless file transfers with no Wi-Fi. You'd have to use a physical cable to connect to computers or a CD. Remember this? Now think about the economy with financial data generally stored on a server banking service largely depend on the Internet. Each transfer would be impossible. Your credit card and debit card would become a useless piece of plastic.







## Answer Short Question

1. What is the upper part that protects a building?  
Answer: Roof
2. What shows how many people can be in a place like an apartment?  
Answer: Capacity
3. What do we call the potential benefits of alternatives when a decision is made?  
Answer: Opportunity cost
4. What is a text that you send to your friends to invite them to a party?  
Answer: Invitation
5. What do we call the behavior of making birds or animals get together?  
Answer: Herd
6. What do we call a large container used for storing oil?  
Answer: Drum / barrel
7. What do you call the brother of your father or mother?  
Answer: Uncle
8. What do we call the bags that contain possessions and people take with when traveling?  
Answer: Luggage / baggage / suitcase
9. What is the upper part of a leg?  
Answer: Thigh
10. What do we call a person looking for a job?  
Answer: Job hunter / job seeker
11. What do we call a picture sent from the post office without an envelope?  
Answer: Postcard



12. What do we call all the staff of a department in a college?  
**Answer:** Faculty
13. What do we call a piece of artificial hair worn by a judge in some courts of law?  
**Answer:** Hairpiece / wig
14. What part of a room is over your head?  
**Answer:** Ceiling
15. What part of the day does a sunrise happen in?  
**Answer:** Dawn
16. What do we call a ship that carries goods from one place to another?  
**Answer:** Freighter / cargo ship
17. What do we call the opposite of destiny?  
**Answer:** Free will
18. What is 'BA' for, such as history and literature?  
**Answer:** Bachelor of arts
19. What do we call a political institution or body that is responsible for a country?  
**Answer:** Government
20. What do we call a group of sheep or birds?  
**Answer:** Flock
21. What do we call a document sent by email?  
**Answer:** Attachment
22. What do we call the marine animal that has eight legs?  
**Answer:** Octopus
23. What kind of food do almonds, pistachios and walnuts fall into?  
**Answer:** Nut



24. Which word do we use to describe a desert, humid or dry?  
Answer: Dry
25. What is not a font style, Bold, Regular, Superscript, or Italic?  
Answer: Superscript
26. What do we call someone who travels and works in a spacecraft?  
Answer: Astronaut
27. What do we call a person who writes biographies of others?  
Answer: Biographer
28. What do we call the different forms of money that a country uses?  
Answer: Currency
29. What is the process of choosing a person for a position by voting?  
Answer: election
30. What are the imaginary lines that run around the earth vertically?  
Answer: longitude
31. If you have an appointment on Wednesday, and today is Thursday, you will have the appointment 'yesterday' or 'tomorrow'?  
Answer: Yesterday
32. What do you use in a non-verbal communication with expressions to convey a message effectively?  
Answer: Body language / sign language
33. What do you pay when you park in a wrong place?  
Answer: fine / parking fine
34. What do we call a large building with a square base and triangular sides?  
Answer: pyramid
35. What is the opposite of horizontal?  
Answer: Vertical
36. What do we call a person undergoing treatments in hospital?



Answer: patient

37. What do we call a person who takes care of children when their parents are at work?

Answer: babysitter / nanny

38. What do we call a bicycle with two seats and two pairs of handles?

Answer: tandem

39. What we call it if trees are cut down in a large area?

Answer: deforestation

40. What fruit category includes orange, mandarin and lemon?

Answer: citrus

41. What do we call a line of people waiting to do something?

Answer: queue

42. What is the mark used to show that one or more letters have been left out?

Answer: apostrophe

43. What do we call a notice, picture or film telling people about a product or service?

Answer: advertisement

44. What do we call an underground train system?

Answer: metro / subway

45. What part of the body propels a flying bird in the air?

Answer: Wing

46. What do you call the curve of a road or a river?

Answer: Bend

47. What is the punctuation used at the end of a sentence?

Answer: full stop / period

48. What do we call the dance which involves the use of toes and jumping?

Answer: Ballet



49. What do we call the sound or movement of the heart?  
Answer: Beat / heartbeat
50. How many millimeters are there in a centimeter?  
Answer: Ten
51. What do we call the money banks charge customers?  
Answer: Interest
52. When you accelerate a car, what does your foot step on?  
Answer: Gas pedal / accelerator / acceleration pedal / throttle
53. What will ice do when it is heated?  
Answer: Melt
54. What is full of water and separates continents?  
Answer: Ocean
55. What do we call a small soft creature with a hard round shell on its back that moves very slowly?  
Answer: Snail
56. What do we call the behavior of not buying products from an exact company as a way of protesting?  
Answer: Boycott
57. What do you call a difficult time when economic activities slow down. And there are more people unemployed?  
Answer: recession
58. What is the description of events that is spoken with background music during a film or a play?  
Answer: narration
59. What device is used to measure the height of mountains?  
Answer: altimeter
60. What is the long speech that is spoken by only one actor in a film or play?





Answer: monologue

61. What is the list that shows the names of actors and actresses in a movie?

Answer: cast

62. If you have a toothache, who will you go to?

Answer: dentist

63. Which century is the year 1642 in?

Answer: seventeenth

64. What stellar system does the earth belong to?

Answer: solar system

65. What is the legal document protecting someone's intellectual property?

Answer: patent

66. What do people hold overhead when it is raining?

Answer: umbrella

67. How do you call someone with no hair?

Answer: bald

68. What do we call programs that run on a computer?

Answer: Software

69. What do you call your cousin's father?

Answer: Uncle

70. What do we call the activity of taking out weeds from the ground?

Answer: Weeding

71. What makes a refrigerator or any other electrical devices work?

Answer: Electricity

72. What do we call drawings or writing on a wall, especially in a public place?

Answer: Graffiti

73. What do we call the place where pedestrians can cross a street?

Answer: Crosswalk / pedestrian crossing / zebra crossing





74. What do we cover our necks with in the winter?

Answer: Scarf / scarves

75. What do people cover their heads with?

Answer: Hats

76. When you want to include a picture or other file into an email, what will you do?

Answer: Attach

77. What is the opposite of 'affluence'?

Answer: Poverty

78. What is the hair called that grows on the skin of a sheep?

Answer: Wool / fleece

79. What do we call the clothing that covers the hand with individual sections for each finger?

Answer: Glove

80. If you have an appointment on Wednesday, and today is Thursday, you will have the appointment 'yesterday' or 'tomorrow'?

Answer: Yesterday

81. What do we call the largest land animal living in Africa or India?

Answer: Elephant

82. Which one of the following is not a mythological animal, unicorn, giraffe, dragon or mermaid?

Answer: Giraffe

83. What do we call a person who is waiting for doing something?

Answer: Standby

84. What do we call a shape of six sides?

Answer: Hexagon



85. Who is the person who shares the same room with you?  
**Answer:** Roommate
86. What do we call a diagram in which an object would appear to viewers if it were cut from top to bottom?  
**Answer:** Section
87. What do we call a person who studies mystery?  
**Answer:** Mystic
88. What do we call the event in which people move through a public place to celebrate an important day or event?  
**Answer:** Parade
89. What is the top surface inside the room?  
**Answer:** Ceiling
90. Which is the biggest one, the elephant, the tiger, or the cheetah?  
**Answer:** Elephant
91. How do we call a person who is about the same age?  
**Answer:** Contemporary / peer
92. A business doesn't want to make a loss - what does it want to make?  
**Answer:** Profit
93. What would call a doctor who sells prescribed medicines?  
**Answer:** Pharmacist / Chemist.
94. What is the legal document protecting someone's intellectual property?  
**Answer:** Patent
95. A manufacturing process releases poisonous gases. What is the most important safety measure for workers at this plant ensuring good ventilation, or appropriate footwear?  
**Answer:** Ensuring good ventilation



96. Where is the largest tropical rainforest in the world located?  
**Answer:** Amazon Rainforest
97. What is the process of converting a liquid into a gas called?  
**Answer:** Evaporation
98. How do we measure the speed of an object in motion?  
**Answer:** Velocity
99. What do we call the smallest unit of an element that retains its chemical properties?  
**Answer:** Atom
100. What do we call a formal agreement between two or more countries or organizations  
**Answer:** Treaty
101. Which branch of mathematics deals with the properties and relationships of lines, angles, and shapes?  
**Answer:** Geometry
102. How do we measure the force or pressure of the atmosphere?  
**Answer:** Barometer
103. What is the study of the Earth's past and the organisms that lived in it called?  
**Answer:** Paleontology
104. Which term describes the study of the Earth's weather and climate?  
**Answer:** Meteorology
105. What do we call a device that is used to measure temperature?  
**Answer:** Thermometer
106. How do we refer to the process of breaking down complex substances into simpler ones?  
**Answer:** Decomposition



107. How do we refer to a person who studies and practices law?  
**Answer:** Lawyer
108. What is the term for a set of rules or guidelines that govern the structure and use of a language?  
**Answer:** Grammar
109. What is the term for a system of government in which power is held by the people?  
**Answer:** Democracy
110. How do we refer to a word that is used to join clauses or sentences together?  
**Answer:** Conjunction.
111. What is the term for the study of the Earth's physical features, climate, and population?  
**Answer:** Geography
112. Which gas makes up the majority of Earth's atmosphere?  
**Answer:** Nitrogen
113. What do we call a substance that can conduct electricity under certain conditions?  
**Answer:** Conductor
114. Which language do we call the most widely spoken language in the world?  
**Answer:** Mandarin Chinese
115. What is the term for a person who studies and designs buildings and other structures?  
**Answer:** Architect
116. What would you call a specialist who repairs leaking water pipes?  
**Answer:** Plumber
117. What is the animal with white ivory and long trunk?  
**Answer:** Elephant



118. How many quarters in a calendar year?  
Answer: Four
119. How many days are there in a fortnight?  
Answer: Fourteen
120. What is the ceremony where two people get married?  
Answer: Wedding.
121. How many years does a centennial celebrate?  
Answer: One hundred.
122. What does a thermometer measure?  
Answer: Temperature.
123. How would you describe an economy that is largely based on farming?  
Answer: Agricultural
124. In addition to A, E, I, O, what is the other vowel letter?  
Answer: U
125. If you are celebrating a bicentennial event, how many years ago did this event happen?  
Answer: Two hundred.
126. What is the opposite of majority?  
Answer: Minority
127. What is the term to specifically describe either a brother or a sister?  
Answer: Sibling.
128. Some calendars begin the week on Sunday, what is the other day which commonly starts a week?  
Answer: Monday.
129. What's the name of the building where you can borrow books?  
Answer: Library.
130. What is another way to say the arrangement of musical notes in a tune?



Answer: Melody.

131. What do we call a period of years?

Answer: Century

132. What is the joint connecting your foot to the leg?

Answer: Ankle

133. What do you call a piece of equipment we use to look at stars?

Answer: Telescope

134.

135. What are the paintings or photos of people especially when they include someone's face, head and shoulders?

Answer: Portrait

136. What is a violent conflict between two or more countries?

Answer: War

137. What is the joint that connects your hand to your arm?

Answer: Wrist

138. What do we measure in Celsius?

Answer: Temperature

139. What do we call the water flowing down the cliff?

Answer: Waterfall

140. What do we call the period between sunrise and sunset?

Answer: Daytime

141. Which one do you spend longer time in, eating, drinking or sleep?

Answer: Sleep

142. What is the opposite of 'affluence'?

Answer: Poverty

143. What is place that a person lives permanently?

Answer: Home.





144. How many sides does an octagon have?

Answer: Eight.

145. What do people cast in an election?

Answer: Vote. Ballot.

146. What is the opposite of 'guilty'?

Answer: Innocent.

147. How many sides does a hexagon have?

Answer: Six.

148. How many sides does a pentagon have?

Answer: Five

149. In what room do scientists usually do experiments?

Answer: Laboratory.

150. What do you call someone who does a job with no salary or offers to do something without being forced?

Answer: Volunteer.

151. What kind of book would you use to look up a word that you don't understand?

Answer: Dictionary

152. What is the book that you write to describe your own life story?

Answer: Autobiography

153. What is the opposite of positive?

Answer: Negative.

154. In which compass direction does the Sun rise from?

Answer: East.

155. How many years are there in two decades?

Answer: Twenty



156. What is the food that is used in a recipe?  
Answer: Ingredient
157. What is the opposite of the minus sign?  
Answer: Plus sign
158. Which continent is Canada located in?  
Answer: North America
159. What is the generic term for gold, silver and copper?  
Answer: Metal
160. What do we call an amount of money that is taken off the usual cost of something?  
Answer: Discount / reduction
161. How many years are there in two centuries?  
Answer: Two hundred
162. What is the word for objects that can be easily moved from one place to another?  
Answer: Portable
163. What is the other form of water other than gas and solid?  
Answer: Liquid / fluid
164. What is the weather condition related with heavy rain and strong wind occurring in the western Pacific or Indian Ocean?  
Answer: Typhoon
165. What is the verb that means employing someone or renting something?  
Answer: Hire
166. What is the three-dimensional shape of circle?  
Answer: Sphere
167. What object do we open a window or a door by?  
Answer: handle



168. If any experiment is duplicated, how many times it is performed?  
Answer: two / twice
169. What do we call a person who does a job without being paid?  
Answer: volunteer
170. What is the process of breaking down plastic and glass and using it again?  
Answer: recycling
171. What do we call a person who is registered for the election?  
Answer: candidate
172. What are the animals that have fins?  
Answer: fish
173. What do you call the case you use to carry documents?  
Answer: briefcase
174. What do we use to get to the third floor when the elevator is broken?  
Answer: stairs
175. What is the cooking process to make cakes or bread?  
Answer: baking
176. How many legs does a tripod have?  
Answer: three
177. What is the opposite of white?  
Answer: black
178. What is the opposite of maximum?  
Answer: minimum
179. What do we call a person who fights against the government?  
Answer: rebel
180. What do we call someone who studies languages?  
Answer: linguist
181. What do we call a group of mountains such as the Himalayas?



Answer: range

182. In winter, what activities do people usually do on snow mountains by standing on long, thin boards?

Answer: skiing

183. What do we call a person who buy things in a shop?

Answer: customer / buyer / shopper

184. What instrument would you use when you want to weigh something up?

Answer: scale

185. What is the storyline or the series of scenes of novels, movies, short stories or plays?

Answer: plot

186. What is the adjective opposite to 'rural'?

Answer: urban

187. What is the star that gives heat and light to the Earth?

Answer: sun

188. What is the main building of a large company or an organization?

Answer: headquarters

189. What do we call a section or a part of a book?

Answer: chapter

190. What do you call a person who works in a company?

Answer: An Employee

191. What is the big musical instrument that has 88 black and white keys?

Answer: Piano

192. What is the antonym of vertical?

Answer: Horizontal

193. What is one half of 100%?

Answer:50%



194. What is more fuel efficient, a car or a truck?  
Answer: A car
195. What is three quarters of 100%?  
Answer:75%
196. What does ASAP mean?  
Answer: As soon as possible
197. What does a Sundial measure according to the shadow in the sunlight?  
Answer: Time
198. Which instrument is used to measure variations in temperature?  
Answer: Thermometer
199. What do we call a person who performs operations? Physician or Surgeon?  
Answer: Surgeon
200. Who is the person who works in a hospital and can-do operations?  
Answer: Surgeon
201. What do you call the strap that secures a person in a car or an aeroplane?  
Answer: Seatbelt
202. What is the opposite of "Successor"?  
Answer: Predecessor
203. What do you call the alphabetical list, at the end of the textbook that tells you where to find specific information?  
Answer: Index
204. If there are 8 black balls and 1 white ball, and I randomly pick one, which color is most likely to be picked?  
Answer: Black
205. Which kind of mountains can erupt?  
Answer: Volcano
206. Where does camel normally appear?



Answer: Desert

207. What do we call the passages between the rows of seats in the theater?

Answer: Aisles

208. Which is the second month of the year?

Answer: February

209. How do we describe something between continents?

Answer: Intercontinental

210. How do we call the flat surface at the front of a television or computer, on which we can see pictures?

Answer: Screen

211. What's the continent where people say Hindu or Chinese?

Answer: Asia

212. How do you call a place where trains or buses regularly stop so that passengers can get on and off?

Answer: Station

213. What heavenly body makes an object cast a shadow during the day?

Answer: Sun.

214. What do we say if we call brothers and sisters in a same way?

Answer: Siblings

215. What do we call the phase in a trial in which both parties interrogate each other?

Answer: Cross examination

216. What do we call a table showing days, weeks and months of a year?

Answer: Calendar

217. What do we call the musical instrument which has six strings?

Answer: Guitar





218. What type of body covering helps to insulate burns?  
**Answer:** Dressing / bandage
219. What is the generic term for a person who once had the same title as you have now?  
**Answer:** Predecessor
220. What is the famous canal linking the Mediterranean Sea with the Indian Ocean?  
**Answer:** Suez
221. What do you call the hair that grows above your eyes?  
**Answer:** Eyebrow
222. What is the part powering a car, ship or an air craft?  
**Answer:** Engine
223. Where can we find the footnote on a page?  
**Answer:** Bottom
224. What is the summary at the beginning of an academic paper called?  
**Answer:** Abstract
225. What is the colorful sticker that is attached to an envelope?  
**Answer:** Stamp
226. A dozen is a grouping of which number?  
**Answer:** Twelve
227. A lack of which kind of weather causes drought, dry weather or rainy weather?  
**Answer:** Rainy weather
228. A list of events placed in time order is usually described as what?  
**Answer:** A chronology / a timeline
229. A planet or a galaxy that is very distant can be seen with what device?  
**Answer:** Telescope





230. At what ceremony do students receive their degree or diploma at the end of their period of study?

Answer: Graduation

231. What is the name of xx' s older sister?

Answer: Flow Chart

232. From where can you have a full view of a building, the outside, inside or top?

Answer: The outside

233. How do we call the people who work in companies?

Answer: Employee or officer

234. How do you describe the desert, humid or dry?

Answer: Migration

235. How many days in a week? 7 days 2How many months are in a year?

Answer: Activate Windom Go to Settings to ACTi Twelve

236. How many people are there in a quartet?

Answer: Four

237. How many seasons are there in a year?

Answer: Four

238. How many sides are there in a bilateral agreement?

Answer: Two

239. How many times a year is a quarterly journal published?

Answer: Four

240. How many years are there in a century?

Answer: 100 (years)

241. How many years are there in a millennium?

Answer: A thousand years

242. How many years does it take to finish undergraduate study?

Answer: Three or four years



243. If a parent have a couple of children, how many children does he have?  
Answer: Two
244. If a person is doing an experiment, what would he wear to protect his eyes?  
Answer: Glasses / goggles
245. If something such as fabric or medicine is artificially made, not natural, what do we say it is?  
Answer: Artificial or Manmade or Synthetic
246. If you are celebrating a biannual activity, how many years ago did you celebrate it last time?  
Answer: half a year
247. What gas will be generated from the boiling water?  
Answer: water vapor steam
248. What is the line where the sky meets the land?  
Answer: horizon
249. What clothing do people wear, such as students or nurses?  
Answer: uniform
250. In what room do scientists usually do experiments?  
Answer: laboratory
251. How do we call the people who study animals and plants?  
Answer: biologists
252. What is the verb describing the process that water becomes ice?  
Answer: freeze
253. What will students receive at the end of the term?  
Answer: transcript
254. How do we describe a person who does something at the right time?  
Answer: Punctual
255. What do judges, solicitors and barristers have to be experts in?





Answer: Law

256. What do you call a period of 365 days?

Answer: Year

257. What does a guitarist pluck when playing the instrument?

Answer: String

258. What drink do people get from cows?

Answer: Milk

259. What do we call the head of a university department?

Answer: Dean

260. What do you get if you successfully complete a university course?

Answer: Diploma

261. If you ask someone how old they are, what do you want to know?

Answer: - Age

262. What do you use to call or text a friend?

Answer: Cell phone

263. What do you call the type of political system that is said to be of the people, by the people and for the people?

Answer: Democracy

264. Who should you go to see if you don't feel well?

Answer: Doctor

265. Which is the shortest month of the year?

Answer: February

266. What does an atlas contain?

Answer: Maps / map

267. What do you call the part of the theatre where actors perform?

Answer: Stage

268. What color do you get if you mix red and yellow?



Answer: Orange

269. Which is the season of the year when plants start growing again?

Answer: Spring

270. What is the bone structure that protects the brain?

Answer: Skull

271. What do we call the opening in the face used for speaking and eating?

Answer: Mouth

272. What is the direction of the longitude lines on the earth's surface?

Answer: Vertical

273. What do we call a powered truck used to lift and move materials over short distances?

Answer: Forklift / Lift Truck

274. What do you call a seat with legs but with nothing to support your arms or back?

Answer: Stool

275. What do we call a horse-like animal with a single horn on the head?

Answer: Unicorn

276. What do workers get by working overtime?

Answer: Overtime pay / overtime payment

277. What do we call the extra working time?

Answer: Overtime

278. Who prescribe patients medicine?

Answer: Doctors

279. What does 'MBA' stand for?

Answer: Master of Business Administration

280. If a figure is pentagon, how many sides does it has?

Answer: Five



281. Which one would you use to describe the desert, aridity or humidity?  
Answer: Aridity
282. What do we call a doctor who can sell prescribed medicines?  
Answer: Chemist/Pharmacist
283. What's the force that pushes everything to the earth?  
Answer: Gravity
284. What device do you use to type when you use a computer?  
Answer: Keyboard
285. What is the last paragraph of an essay?  
Answer: Conclusion
286. To which system does the earth belong?  
Answer: Solar system
287. What is the opposite of 'positive'?  
Answer: Negative
288. Where is a suspect convicted of a crime?  
Answer: Court
289. What is the straight line between the center of a circle and any point on its outer edge?  
Answer: Radius
290. What do we call a statement presented in court by a defendant or a lawyer?  
Answer: Plea
291. What type of work is a sabbatical a lengthy time away from?  
Answer: Teaching
292. Where does a pilot sit in an airplane?  
Answer: Cockpit
293. What will happen to a fragile item if it is not handled carefully?  
Answer: Smash / break / broken





294. If a driver drives the car, what does a pilot do to the plane?  
Answer: Fly / flies
295. How often does an annual event happen?  
Answer: Once a year
296. What is the conservation of non-renewable energy?  
Answer: Reuse / recycling
297. What do you call the dark shape your body make on the ground in the sun?  
Answer: Shadow
298. What is the portable breathing apparatus for divers?  
Answer: Aqualung
299. In which direction does the Sun rise from?  
Answer: East
300. Where does camel normally appear?  
Answer: Desert
301. In the sentence: "He has been quite upset since he went back to school.", which word uses a past tense?  
Answer: Went
302. If there are 8 black balls and 1 white ball, and I randomly pick one, which color is most likely to be picked?  
Answer: Black
303. What do you call the alphabetical list, at the end of the textbook that tells you where to find specific information?  
Answer: Index
304. What is the opposite of "Successor"?  
Answer: Predecessor
305. The science of animal life. Biology or Zoology?  
Answer: – Zoology



306. What do we call the headache or other sick feelings caused by drinking too much alcohol?  
**Answer:** Hangover
307. Where do we catch a flight?  
**Answer:** Airport
308. What do we call the chair a king or a queen sits in?  
**Answer:** Throne
309. What do we call a young dog?  
**Answer:** Puppy
310. What does the color green help for?  
**Answer:** Sight / eyesight
311. What is the way animals conserve energy to survive the winter?  
**Answer:** Hibernation
312. What object has three legs and can support a camera?  
**Answer:** Tripod
313. What is the opposite of 'appreciate'?  
**Answer:** Depreciate
314. What do we call the act of saying goodbye to someone?  
**Answer:** Farewell
315. What do we call apartment, flat and house?  
**Answer:** Properties
316. What do we call a vehicle equipped for carrying the injured or sick?  
**Answer:** Ambulance
317. What do we call the industry connected with getting valuable minerals from the ground?  
**Answer:** Mining



318. What is the process you do when you are not satisfied with a verdict of your lawsuit?  
**Answer:** Appeal
319. What will happen to a balloon if you inflate it beyond its capacity?  
**Answer:** Blast
320. What do we call a private teacher who gives you lessons outside school hours?  
**Answer:** Tutor
321. What do we call the machine that provides drinking water in an office?  
**Answer:** Water cooler / water dispenser
322. What is the synonym of 'destiny'?  
**Answer:** Fate
323. What geometric shape are circumference, diameter and radius related with?  
**Answer:** Circle
324. What do we call a person who trains a team in a particular sport?  
**Answer:** Coach
325. What is the occupational title for a person who composes novels?  
**Answer:** Novelist
326. What do we call a group of people who sing together?  
**Answer:** Choir
327. What do we call the weather conditions like rain, hail, etc.?  
**Answer:** Precipitation
328. What do we call a slight shaking movement in a part of the body?  
**Answer:** Tremor / quiver / shiver / tremble
329. Something that is quickly and easily set on fire and burned. Flammable or Non flammable?  
**Answer:** – Flammable



330. Not limited by person or number. Infinite or Finite?

Answer: – Infinite

331. Art and science dealing with rules of language. Grammar or Literature?

Answer: – Grammar

332. A string of beads used for counting prayers. Rosary or Garland?

Answer: – Rosary

333. A building for keeping and feeding horses in. Stable or Kennel?

Answer: – Stable

334. An animal living both on land in water?

Answer: – Amphibian

335. A man who thinks only for himself?

Answer: Egoistic or Self-cantered

336. A disease which spreads by contact?

Answer: Contagious disease

337. What do people wear, if they can't see very well?

Answer: – Spectacles

338. What does an optic person deal with?

Answer: Spectacles

339. What do you call a piece of equipment we use to look at stars?

Answer: Telescope

340. What do you call the strap that secures a person in a car or an airplane?

Answer: Seat belt

341. Who is the person who works in a hospital and can-do operations?

Answer: Surgeon

342. What do we call a person who performs operations? Physician or Surgeon?

Answer: Surgeon

343. Which instrument is used to measure variations in temperature?



Answer: Thermometer

344. If you do something every day, you do daily what?

Answer: Routine

345. How often is a quarterly journal published?

Answer: Every three months

346. What is a polygon of eight angles and eight sides called?

Answer: Octagon

347. What do we call a scientific test that is done to discover or prove something?

Answer: Experiment

348. What do we call a woman who is getting married?

Answer: Bride

349. What do we call the industry which involves designing, building and flying of aircrafts?

Answer: Aviation

350. What do we call a word or a group of words with a particular meaning such as 'the other day'?

Answer: Expression / phrase

351. What is the ripening agent or chemical substance to ripen fruits?

Answer: Ethylene

352. What do we call a person who accesses others' computer systems without permission?

Answer: Hacker

353. What can we call the science or practice of drawing maps?

Answer: Cartography

354. What is the largest lake in the world?

Answer: Caspian



355. What is the part of the leg below the thigh?

Answer: Shank / calf

356. What do we call a statement made by somebody who knows it is not true?

Answer: Lie

357. What is a small handheld light that usually gets its power from batteries?

Answer: Flashlight / torch

358. What percentage is one fifth equal to?

Answer: Twenty

359. What do we call a movie played in the afternoon?

Answer: Matinee

360. Does mathematics or linguistics cover the study of the relations between numbers?

Answer: Mathematics

361. How many years are there in a half of a decade?

Answer: Five

362. What happens to water when the temperature falls to zero degree?

Answer: Freeze

363. Where do we try on a piece of clothing in a cloths shop?

Answer: Fitting room

364. What do we call a flying machine?

Answer: Aircraft

365. What do we call a person who is single?

Answer: Singleton

366. What do we call the period between childhood and adulthood?

Answer: Adolescence / puberty

367. What do you call the medicine that is used against headache?

Answer: Pain killer / painkiller





368. What do we call the state of sharing the same opinion?  
Answer: Agreement
369. What do we call a person who advocates females' rights?  
Answer: Feminist
370. What do we call the preliminary version of a document before it is finalized?  
Answer: Draft
371. What do you call the process of borrowing a sum of money from a bank?  
Answer: Loan
372. Where do we see aquatic animals?  
Answer: Aquarium / water
373. What does the 'C' in 'CEO' stand for?  
Answer: Chief
374. What do we call the salary regularly received by a retiree?  
Answer: Pension
375. What do we call a person who tells lies?  
Answer: Liar
376. What crime does someone commit if he or she steals items from a shop?  
Answer: Shoplifting
377. What word do we use to describe an accident or a disease which causes death?  
Answer: Fatal / deadly
378. What do we call a person who does not believe in the existence of god?  
Answer: Atheist
379. What do we call a person who believes in the existence of God?  
Answer: Theist
380. What word do we use to describe people who are subject to death?  
Answer: Mortal



381. What do we call an assembly of listeners?

Answer: Audience

382. What do we call a person who believes that laws and governments are not necessary?

Answer: Anarchist

383. What do we call a pleasant song used for causing children to sleep?

Answer: Lullaby

384. What do you eat when you are sick?

Answer: Medicine / pill / medication / tablet

385. In what you record your personal experience?

Answer: Diary / journal

386. What do we call a plan made by bad people to do a bad action?

Answer: Conspiracy / plot / scheme

387. What do we call the female's partner in a marital relation?

Answer: Husband

388. What do we call a meeting which all staff and employees must attend?

Answer: Plenary meeting

389. What is the fourth basic mathematical operation, addition, subtraction, multiplication and?

Answer: Division

390. What do we call a large cage in which birds are kept?

Answer: Aviary

391. Whose job is to make or repair shoes?

Answer: Cobbler / shoemaker

392. What instrument is used to measure angles in geometry?

Answer: Protractor

**WRITING**





## SUMMARIZE WRITTEN TEXT

1. When the Rosetta Stone was discovered in 1799, the carved characters that covered its surface were quickly copied. Printer's ink was applied to the Stone and white paper laid over it. When the paper was removed, it revealed an exact copy of the text—but in reverse. Since then, many copies or "facsimiles" have been made using a variety of materials. Inevitably, the surface of the Stone accumulated many layers of material left over from these activities, despite attempts to remove any residue. Once on display, the grease from many thousands of human hands eager to touch the Stone added to the problem. An opportunity for investigation and cleaning the Rosetta Stone arose when this famous object was made the centerpiece of the Cracking Codes exhibition at The British Museum in 1999. When work commenced to remove all but the original, ancient material, the stone was black with white lettering. As treatment progressed, the different substances uncovered were analyzed. Grease from human handling, a coating of carnauba wax from the early 1800s and printer's ink from 1799 were cleaned away using cotton wool swabs and liniment of soap, white spirit, acetone and purified water. Finally, white paint in the text, applied in 1981, which had been left in place until now as a protective coating, was removed with cotton swabs and purified water. A small square at the bottom left corner of the face of the Stone was left untouched to show the darkened wax and the white infill.

### Answer:

Since the Rosetta Stone was discovered in 1799, the carved characters that covered its surface were quickly copied, which leaves the surface of the Stone



accumulated many layers of material left over from these activities, despite attempts to remove any residue, so when the work of the Cracking Codes exhibition at The British Museum in 1999 commenced to remove all but the original, ancient material the stone was black with white lettering.

2. Orville and Wilbur Wright were brothers living in Dayton, Ohio. The two had started making bicycles during the 1890s and had a successful small business selling their Wright Specials for \$18 each (\$475 in today's green). This experience with building light, strong machines would prove valuable in the coming years after the brothers' interest turned to flight. Others in the United States were also developing aircraft at the time the Wright brothers started turning their curiosity skyward. Samuel Langley had flown an unmanned steam-powered aircraft in 1896. Octave Chanute and others were flying gliders near Chicago late in the decade as well. But it wasn't until the Wright brothers started working on the matter that the "flying problem" would finally be solved. Beginning in 1899, the brothers designed and built a series of gliders to test their various ideas on a flying machine. They constructed a wind tunnel that allowed them to test designs without having to build a full-size model. They even built their own gasoline-powered motor for their aircraft. But it was the idea of controlled flight that the Wright brothers recognized as the biggest challenge. The Wright brothers realized the problem wasn't getting into the air, it was what to do once the pilot was airborne. One of the key features of the Wright brothers' design is something they learned from watching birds.

**Answer:**

Despite others in the United States developing aircraft at the time, it wasn't until the Wright brothers, with experience of building light, strong machines, started working on the matter that the "flying problem" would finally be



solved, and the brothers designed and built a series of gliders to test their various ideas on a flying machine with constructing a wind tunnel that allowed them to test designs without having to build a full-size model.

3. After the 1905 flying season, the Wrights contacted the United States War Department, as well as governments and individuals in England, France, Germany, and Russia, offering to sell a flying machine. They were turned down time and time again -- government bureaucrats thought they were crackpots; others thought that if two bicycle mechanics could build a successful airplane, they could do it themselves. But the Wright persisted, and in late 1907, the U.S. Army Signal Corps asked for an aircraft. Just a few months later, in early 1908, a French syndicate of businessmen agreed to purchase another. Both the U.S. Army and the French asked for an airplane capable of carrying a passenger. The Wright brothers hastily adapted their 1905 Flyer with two seats and a more powerful engine. They tested these modifications in secret, back at Kitty Hawk, North Carolina for the first time in several years. Then the brothers parted temporarily -- Wilbur to France and Orville to Virginia. In 1908 and 1909, Wilbur demonstrated Wright aircraft in Europe, and Orville flew in Fort Meyer, Virginia. The flights went well until Orville lost a propeller and crashed, breaking his leg and killing his passenger Lt. Thomas Selfridge. While Orville recuperated, Wilbur kept flying in France, breaking record after record. Orville and his sister Kate eventually joined Wilbur in France, and the three returned home to Dayton to an elaborate homecoming celebration. Together, Orville and Wilbur returned to Fort Meyer with a new Military Flyer and completed the U.S. Army trials. A few months later, Wilbur flew before over a million spectators in New York Harbor -- his first public flight in his native land. All of these flights stunned and captivated the world. The Wright Brothers became the first great celebrities of the





twentieth century.

Answer:

Although the Wrights were turned down time and time again to sell a flying machine because government bureaucrats thought they were crackpots, they persisted before the U.S. Army Signal Corps asked for an aircraft, and they hastily adapted their 1905 Flyer with two seats and a more powerful engine, demonstrating Wright aircraft, which makes the Wright Brothers become the first great celebrities of the twentieth century.

4. Fish are being killed, and prevented from reaching maturity, by the litter of plastic particles finding their way into the world's oceans, new research has proved. Some young fish have been found to prefer tiny particles of plastic to their natural food sources, effectively starving them before they can reproduce. The growing problem of microplastics - tiny particles of polymer-type materials from modern industry - has been thought for several years to be a peril for fish, but the study published on Thursday is the first to prove the damage in trials. Microplastics are near-indestructible in natural environments. They enter the oceans through litter, when waste such as plastic bags, packaging and other convenience materials are discarded. Vast amounts of these end up in the sea, through inadequate waste disposal systems and sewage outfall. Another growing source is microbeads, tiny particles of hard plastics that are used in cosmetics, for instance as an abrasive in modern skin cleaners. These easily enter waterways as they are washed off as they are used, flushed down drains and forgotten, but can last for decades in our oceans. The impact of these materials has been hard to measure, despite being a growing source of concern. Small particles of plastics have been found in seabirds, fish and whales, which swallow the materials but cannot digest them, leading to a build-up in their digestive



tracts. For the first time, scientists have demonstrated that fish exposed to such materials during their development show stunted growth and increased mortality rates, as well as changed behavior that could endanger their survival.

**Answer:**

Fish are being killed and prevented from reaching maturity, by the litter of plastic particles finding their way into the world's oceans, as some young fish have been found to prefer tiny particles of plastic to their natural food, effectively starving them before they can reproduce, which has been thought for several years to be a peril for fish, with the impact of these materials hard to measure, despite being a growing source of concern.

5. Biomimicry (from bios, meaning life, and mimesis, meaning to imitate) is a new science that studies nature's best ideas and then imitates these designs and processes to solve human problems. Studying a leaf to invent a better solar cell is an example. I think of it as 'innovation inspired by nature.' The core idea is that nature, imaginative by necessity, has already solved many of the problems we are grappling with. Animals, plants, and microbes are the consummate engineers. They have found what works, what is appropriate, and most important, what lasts here on Earth. This is the real news of biomimicry: After 3.8 billion years of research and development, failures are fossils, and what surrounds us is the secret to survival. Like the viceroy butterfly imitating the monarch, we humans are imitating the best and brightest organisms in our habitat. We are learning, for instance, how to harness energy like a leaf, grow food like a prairie, build ceramics like an abalone, self-medicate like a chimp, compute like a cell, and run a business like a hickory forest. The conscious emulation of life's genius is a survival strategy for the human race, a path to a sustainable future. The more our world looks and



functions like the natural world, the more likely we are to endure on this home that is ours, but not ours alone.

**Answer:**

Biomimicry is a new science that studies nature's best ideas and then imitates these designs and processes to solve human problems, whose core idea is that nature has already solved many of the problems we are grappling with, with animals, plants, and microbes being the consummate engineers, and the more our world looks and functions like the natural world, the more likely we are to endure on this home.

6. According to researchers, the invisibility cloak illusion stems from the belief that we are much more socially observant than the people around us. This means that, while we watch and wonder about other people as much as possible, we often think that people around us are less aware. This illusion occurs because, while we are fully aware of our own impressions and speculations about other people, we have no idea about what those other people are thinking unless they choose to share with us, something that rarely happens except in exceptional circumstances. To better understand what is happening, it is important to consider the groundbreaking research by Amos Tversky and Daniel Kahneman on cognitive biases. When people make judgments about other people in social situations, they often depend on specific biases such as the availability heuristic, i.e., that we attach more significance to thoughts that come to mind easily. This is why we consider thoughts about other people as being more important than thoughts about inanimate objects. And so, as we look around us, we tend to focus our thoughts on the people we see and what they happen to be doing. Which is why people-watching can be so addictive. What adds to the sense that we are relatively invisible to others is that people tend to be as discreet as



possible about their people-watching. Just because other people aren't sharing their observations with us, it's easy to pretend that they are not as observant as we are. Of course, people may share their people-watching observations with anyone they happen to be with but, for the most part, that only applies to something remarkable enough to comment on. For most of us, what we are seeing tends to be extremely private and not to be shared with others.

**Answer:**

The invisibility cloak illusion stems from the belief that we are much more socially observant than the people around us, which means while we watch and wonder about other people as much as possible, we often think they are less aware, and occurs because, while we are fully aware of our own impressions and speculations about other people, we have no idea about what those other people are thinking.

7. If it seems like you're not getting enough sleep, you're not alone. People have evolved to sleep much less than chimps, baboons or any other primates studied so far, a new study finds. Charles Nunn and David Samson are evolutionary anthropologists. They study how humans have evolved to behave the way we do. Nunn works at Duke University in Durham, N.C. Samson works at the University of Toronto Mississauga in Canada. In their new study, the two compared sleep patterns in 30 different species of primates, including humans. Most species slept between nine and 15 hours daily. Humans averaged just seven hours of shut-eye. Based on lifestyle and biological factors, however, people should get 9.55 hours, Nunn and Samson calculate. Most other primates in the study typically sleep as much as the scientists predicted they should. Nunn and Samson shared their findings online February 14 in the American Journal of Physical Anthropology. The researchers argue



that two long-standing features of human life may play into our short sleep times. The first stems from when humans' ancestors descended from the trees to sleep on the ground. At that point, people probably had to spend more time awake to guard against predators. The second may reflect the intense pressure humans face to learn and teach new skills and to make social connections. That has left less time for sleep. As sleep declined, rapid-eye movement – or REM – sleep took on an outsize role in humans, Nunn and Samson propose. REM sleep is when we dream. And it has been linked to learning and memory. "It's pretty surprising that non-REM sleep time is so low in humans," Nunn says. "But something had to give as we slept less."

**Answer:**

People have evolved to sleep much less because humans' ancestors descended from the trees to sleep on the ground, having to spend more time awake to guard against predators, and another feature may reflect intense pressure humans face to learn and teach new skills and to make social connections; as sleep declined, rapid-eye movement took on an outsize role, but REM has been linked to learning and memory.

8. Water is at the core of sustainable development. Water resources, and the range of services they provide, underpin poverty reduction, economic growth and environmental sustainability. From food and energy security to human and environmental health, water contributes to improvements in social wellbeing and inclusive growth, affecting the livelihoods of billions. In a sustainable world that is achievable in the near future, water and related resources are managed in support of human well-being and ecosystem integrity in a robust economy. Sufficient and safe water is made available to meet every person's basic needs, with healthy lifestyles and behaviors easily upheld through reliable and affordable water supply and sanitation services,



in turn supported by equitably extended and efficiently managed infrastructure. Water resources management, infrastructure and service delivery are sustainably financed. Water is duly valued in all its forms, with wastewater treated as a resource that avails energy, nutrients and freshwater for reuse. Human settlements develop in harmony with the natural water cycle and the ecosystems that support it, with measures in place that reduce vulnerability and improve resilience to water-related disasters. Integrated approaches to water resources development, management and use and to human rights are the norm. Water is governed in a participatory way that draws on the full potential of women and men as professionals and citizens, guided by a number of able and knowledgeable organizations, within a just and transparent institutional framework.

**Answer:**

Water is at the core of sustainable development, and water contributes to improvements in social wellbeing and inclusive growth, affecting the livelihoods of billions, which means that in a sustainable world that is achievable in the near future, water and related resources are managed in support of human wellbeing and ecosystem integrity in a robust economy, so water is duly valued in all its forms.

9. Most of the time when I embark on such an investigation, it quickly becomes clear that matters are much more complicated and ambiguous several shades grayer than I thought going in. Not this time. The deeper I delved into the confused and confusing thicket of nutritional science, sorting through the long-running fats versus carb wars, the fiber skirmishes and the raging dietary supplement debates, the simpler the picture gradually became. I learned that in fact, science knows a lot less about nutrition than you would expect - that in fact, nutrition science is, to put it charitably, a very young science. Ifs still





trying to figure out exactly what happens in your body when you sip a soda, or what is going on deep in the soul of a carrot to make it so good for you, or why in the world you have so many neurons – brain cells! – in your stomach, of all places. It's a fascinating subject, and someday the field may produce definitive answers to the nutritional questions that concern us, but – as nutritionists themselves will tell you – they're not there yet. Not even close. Nutrition science, which after all only got started less than two hundred years ago, is today approximately where surgery was in the year 1650 – very promising, and very interesting to watch, but are you ready to let them operate on you? I think I'll wait a while.

**Answer:**

Nutrition science is a very young science, and someday the field may produce definitive answers to the nutritional questions that concern us, but it knows a lot less about nutrition than you would expect because it only got started less than two hundred years ago and is today approximately where surgery was in the year 1650.

10. One of Guinness World Records' more unusual awards was presented at the National Maritime Museum yesterday. After a 100-day trial, the timepiece known as Clock B – which had been sealed in a clear plastic box to prevent tampering – was officially declared, by Guinness, to be the world's "most accurate mechanical clock with a pendulum swinging in free air". It was an intriguing enough award. But what is really astonishing is that the clock was designed more than 250 years ago by a man who was derided at the time for Lian incoherence and absurdity that was little short of the symptoms of insanity", and whose plans for the clock lay ignored for two centuries. The derision was poured on John Harrison, the British clockmaker whose marine chronometers had revolutionized seafaring in the 18th century (and who was



the subject of Longitude by Diva Sobel). His subsequent claim – that he would go on to make a pendulum timepiece that was accurate to within a second over a 100- day period – triggered widespread ridicule. The task was simply impossible, it was declared. But now the last laugh lies with Harrison. At a conference, Harrison Decoded: Towards a Perfect Pendulum Clock, held at Greenwich yesterday, observatory scientists revealed that a clock that had been built to the clockmaker's exact specifications had run for 100 days during official tests and had lost only five eighths of a second in that period.

**Answer:**

John Harrison, the British clockmaker claimed that he would go on to make a pendulum timepiece that was accurate to within a second over a 100-day period, which triggered widespread ridicule, but now the last laugh lies with Harrison as Clock B, which was designed more than 250 years ago, and was officially declared, by Guinness, to be the world's "most accurate mechanical clock with a pendulum swinging in free air".

11. It's important to realize that the brain doesn't see the world around it simply as though the scene was projected onto a cinema screen on the inside of your skull. Before a scene can be observed "in your head" it has to be broken down into a number of different components for processing, and these components then have to be recombined into the meaningful form that we call "an image". Amongst other things, the scene is broken down into its different colors – red, green and blue – in a way that's analogous to the manner in which a television image or magazine photograph is broken down into tiny dots of primary colors (which are too small to be noticed individually when we look at them, but which when seen collectively give the impression of a continuous full color image). However, unlike and magazine images, the image that we see with our eyes is broken down not only into separate color



components but into other components too. It is, rather incredibly, deconstructed into component parts such as horizontal lines, vertical lines, circles and so on. Each of these component parts is sent to a separate area of the brain for processing, with the different components of the scene only merging again when they are unified into what you perceive as the image.

Answer:

The brain doesn't see the world simply as though the scene was projected onto a cinema screen because the image that we see with our eyes is broken down into separate color components and other components; each of these component parts is sent to a separate area of the brain for processing, with the different components of the scene only merging again when they are unified into what you perceive as the image.

12. With a good system of crop rotation, and especially with the addition of any sort of fertilizer you may be able to come up with, it's possible to grow crops on a plot of land for upwards of 2 - 3 years at a time with good results. Ultimately, though, you must let the land rest if you hope to continue farming there in the long-run. Allowing a plot of land to rest for a period of time is known as letting the field go fallow, and there are several reasons for this. Allowing a field or plot to lie fallow means that you don't grow anything new on it, don't harvest anything and don't graze any animals on the land for at least a year. Sometimes a field will lay fallow for two, three or even four years, but the traditional standard on many farms was to let a field lie fallow once every 2 - 3 years. This fallow period allows the land to replenish many of its nutrients. The root networks of various grasses or groundcovers (like clover) have a chance to expand and grow, which further strengthens the soil and protects it from erosion. During the fallow period, there are many beneficial flora and micro-fauna, including cyanobacteria, which live in the soil. These



microorganisms continue to be active at the root level, steadily improving the quality of the soil so that when you come back in a year or two, you can begin planting food or cash crops anew.

**Answer:**

The reasons why you must let the land rest if you hope to continue farming there in the long-run, which is letting the field go fallow are that this allows the land to replenish many of its nutrients, the root networks of various grasses or ground covers have a chance to expand and grow, and there are many beneficial flora and micro-fauna.

13. The 1920's movie goers experience was largely dominated by silent movies but saw the introduction of synchronized sound. In the 1920's movie stars were really stars - with huge salaries, the fashions and activities of the Hollywood greats echoed around the world and 100,000 people would gather in cities all over the world, including such diverse cities as London and Moscow, to greet Mary Pickford and Douglas Fairbanks when they toured of Europe. Early silent movies were often accompanied by live piano or organ music and provided enormous entertainment value to audiences captivated by the experience of watching moving pictures on the silver screen. Although there had been previous attempts to introduce sound, it wasn't until 1923 that a synchronized sound track was photographically recorded and printed on to the side of the strip of motion picture film and made it on to a commercially distributed movie. It would still be seven long years before talking pictures gained total supremacy and finally replaced the silent film era. The first movie theatres were called Nickelodeons, and were very basic compared the luxurious picture palaces that followed but what an aura of excitement, of laughter, fun and tears surrounded them! Before the introduction of movie soundtracks, movies were often accompanied by scripted music from a piano.



Answer:

With early silent movies often accompanied by live piano or organ music audiences captivated by the experience of watching moving pictures on the silver screen, and it wasn't until 1923 that a synchronized sound track was photographically recorded and printed on to the side of the strip of motion picture film and made it on to a commercially distributed movie, and the first movie theatres were called Nickelodeons.

14. Delivering packages with drones will scale back CO2 emissions inbound circumstances as compared to truck deliveries, a brand-new study from University of Washington transportation engineers finds. In a paper to be revealed in associate degree coming issue of Transportation analysis half D, researchers found that drones tend to own CO2 emissions blessings over trucks once the drones haven't got to fly terribly way to their destinations or once a delivery route has few recipients. Trucks – which may provide environmental edges by carrying everything from garments to appliances to the article of furniture in a very single trip – become a lot of climate-friendly various once a delivery route has several stops or is farther off from a central warehouse. For small, light-weight packages – a bottle of drugs or a kid's bathing costume – drones contend particularly well. However, the carbon edges erode because the weight of a package increase since these unmanned aerial vehicles have to be compelled to use extra energy to remain aloft with a significant load.

Answer:

Delivering packages with drones will scale back CO2 emissions if the drones haven't got to fly terribly way to their destinations, while the carbon edges erode because the weight of a package increase, but trucks become a lot of climate-friendly various once a delivery route has several stops.



15. By 1984, the internet had grown to include 1,000 host computers. The National Science Foundation was one of the first outside institutions hoping to connect to this body of information. Other government, non-profit, and educational institutions followed. Initial attempts to catalogue this rapidly expanding system of networks were simple. Among the first was Archie, a list of FTP information created by Peter Deutsch at McGill University in Montreal. However, the greatest innovation in the Internet was still to come, brewing in an MIT laboratory in Cambridge, Mass. The World Wide Web, or the Web, is often confused with the Internet. In fact, it is just one part of the Internet, along with email, video conferencing, and streaming audio channels. In 1989, Tim Berners-Lee, now a scientist at the Massachusetts Institute of Technology, introduced a new system of communication on the Internet which used hyperlinks and a user-friendly graphical interface. His slice of the Internet pie came to be known as the World Wide Web. Berners-Lee says, "The Web is an abstract (imaginary) space of information. On the Net, you find computers – on the Web, you find documents, sounds, videos, ...information. On the Net, the connections are cables between computers; on the web, connections are hypertext links. The Web exists because of programs which communicate between computers on the Net. The Web could not be without the Net. The Web made the Net useful because people are really interested in information (not to mention knowledge and wisdom!) and don't really want to know about computers and cables."

**Answer:**

In 1989, Tim Berners-Lee introduced a new system of communication on the Internet, and his slice of the Internet pie came to be known as the World Wide Web, and it is the greatest innovation in the Internet, and the Web is an





abstract space of information, and the Web made the Net useful because people are really interested in information.

16. According to Dr. Ron Fessenden, M.D., M.P.H. the average American consumes more than 150 pounds of refined sugar, plus an additional 62 pounds of high fructose corn syrup every year. In comparison, we consume only around 1.3 pounds of honey per year on average in the U.S. According to new research, if you can switch out your intake of refined sugar and use pure raw honey instead, the health benefits can be enormous. What is raw honey? It's a pure, unfiltered and unpasteurized sweetener made by bees from the nectar of flowers. Most of the honey consumed today is processed honey that's been heated and filtered since it was gathered from the hive. Unlike processed honey, raw honey does not get robbed of its incredible nutritional value and health powers. It can help with everything from low energy to sleep problems to seasonal allergies. Switching to raw honey may even help weight-loss efforts when compared to diets containing sugar or high fructose corn syrup. I'm excited to tell you more about one of my all-time favorite natural sweeteners today.

**Answer:**

According to new research, if you can switch out your intake of defined sugar and use pure raw honey instead, the health benefits can be enormous, and unlike processed honey, raw honey is a pure, unfiltered, and unpasteurized sweetener made by bees and does not get robbed of its incredible nutritional value and health power, which can help with low energy, sleep problems, seasonal allergies, and even weight-loss.

17. Let us begin by asking why the conviction that our language is decaying is so much more widespread than the belief that it is progressing, in an intellectual climate where the notion of the survival of the fittest is at least as strong as



the belief in inevitable decay, it is strange that so many people are convinced of the decline in the quality of English, a language which is now spoken by an estimated half billion people – a possible hundredfold increase in the number of speakers during the past millennium. One's first reaction is to wonder whether the members of the anti-slovenliness brigade, as we may call them, are subconsciously reacting to the fast-moving world we live in, and consequently resenting change in any area of life. To some extent this is likely to be true. A feeling that 'fings ain't wot they used to be' and an attempt to preserve life unchanged seem to be natural reactions to insecurity, symptoms of growing old. Every generation inevitably believes that the clothes, manners and speech of the following one have deteriorated. We would therefore expect to find a respect for conservative language in every century and every culture and, in literate societies, a reverence for the language of the 'best authors' of the past.

**Answer:**

While English is widely spoken in the world, it is strange that so many people are convinced of the decline in the quality of English, and the reason may be that the members of the anti-slovenliness brigade are subconsciously reacting to the fast-moving world and consequently resenting change in any area of life because every generation inevitably believes that things in the following generation have deteriorated.

18. In order to have a competitive edge, athletes often use drugs with high athletic performance. The National Honey Board recently found that honey has the same functions but less negative impact. This clinical trial is the third in a series of studies focusing on the use of honey by athletes. The first study (involving 71 subject) determined that honey has a milder effect on blood sugar than other popular forms of carbohydrate gel. The second study in the



series (with 39 weights trained subjects) investigated the combination of honey with a protein supplement and suggested that honey speeds muscle recovery after a workout.

**Answer:**

Honey, with the same functions as drugs used by athletes for high athletic performance and less negative impact, has a milder effect on blood sugar than other popular forms of carbohydrate gel, and speeds muscle recovery after a workout.

19. What is known (prior knowledge or pre-existing knowledge) is the knowledge, skill or ability that a learner brings to a new learning encounter. This includes all knowledge that is available before the learning event, and which has been gathered or developed by any means, and in any situation, including both formal and, quite often, informal learning situations. Learners need enough previous knowledge and understanding to enable them to learn new things; they also need help making links with new and previous knowledge explicit. It is considered to be valuable to go through a process of what has been called 'activating prior knowledge'. Teachers often go through this process at the beginning of a new topic. They also use introductory strategies at the beginning of lessons which are continuations from previous lessons. In terms of the practicalities of teaching, this is a process of making children think about the topic or remember what has been covered already. In terms of theory, it is to do with activating particular schemas.
20. A medical doctor and professor for international health at Stockholm's Karolinska Institute, Rosling became famous as the public educator who used statistics to show how the world is changing. He chose this public role after making two significant discoveries. Rosling's first discovery was that many



people are not aware of even the most basic facts about global health and global development. Through surveys he conducted, Rosling found that at a time when poverty is falling faster than ever before, the majority of people think that the proportion of the world population living in extreme poverty is rising. Similarly, he found that many underestimate global life expectancy widely, and are not aware of the success of delivering healthcare services—for example, vaccines—globally. He found that people’s worldviews often do not have much grounding in facts, even long before the “post-fact” era. Rosling was convinced that this unawareness of global progress matters. He made it his mission to fight this “devastating ignorance” that turns us into cynics, as we falsely believe that global development must be a mirage. Rosling’s second discovery was that this lack of factual knowledge was not because people are not interested in global development, but because it is too hard for those that want to know about global development to access this knowledge. Neither the experts nor the media were presenting how global development changes the world. Based on these two insights, Hans Rosling made it his mission to bridge this gap and present the evidence that global development is a reality. His approach to communicating research on global development was through public talks and the use of data visualisation.

21. The colors that we see are a result of the light reflected within a narrow range of wavelengths – what we call the visible spectrum. But sunlight also spans wavelengths that we cannot see. Humans can’t see ultraviolet wavelengths, which many other animals can see. But there’s one set of wavelengths that elude all of us – these are near infra-red (NIR) wavelengths. And understanding how bird feathers interact with these wavelengths is important, not just for birds, but also for humans through the potential for improvements in thermal efficiency. Our research in the School of BioSciences at the



University of Melbourne suggests that some Australian birds can control their temperature and avoid overheating by reflecting near-infrared wavelengths of sunlight. We collected information on 90 species of Australian birds and found a very strong link between living in hot, arid regions and reflecting a higher proportion of near-infrared light. Researchers in the field of animal colouration have largely ignored near-infrared light, because it isn't easy to measure and there's no evidence that animals can see these wavelengths. Because these wavelengths are invisible, they don't affect camouflage or sexual attractiveness, which are very important in the animal world. This means that many animals can control their temperature by altering reflection of near-infrared light without compromising their ability to hide or attract a mate.

22. The advantages and disadvantages of solar power compared to other forms of renewable energy have been greatly debated. While obviously superior to some forms of energy, solar power's high cost and efficiency dependent on geography have limited its appeal. However, a large number of advantages also merit further development and even possible adaptation for residences. Advantages of Solar Power Solar energy remains popular because it is both a renewable and clean source of energy. These advantages along with the hope that eventually nations can use solar power to decrease global warming ensure its popularity. Renewable Solar energy is a true renewable resource. All areas of the world have the ability to collect some amount of solar power and solar power is available for collection each day. Clean Solar energy is non-polluting. It does not create greenhouse gases, such as oil based energy does, nor does it create waste that must be stored, such as nuclear energy. It is also far more quiet to create and harness, drastically reducing the noise pollution required to convert energy to a useful form.



Residential size solar energy systems also have very little impact on the surrounding environment, in contrast with other renewable energy sources such as wind and hydroelectric power. Low Maintenance Solar panels have no moving parts and require very little maintenance beyond regular cleaning. Without moving parts to break and replace, after the initial costs of installing the panels, maintenance and repair costs are very reasonable.

**Answer:**

Despite great debate, solar energy, whose advantages merit further development and possible adaptation for residences, remains popular because it is a true renewable resource which is available for collection in all areas of the world each day and it is non-polluting, creating no greenhouse gases or waste, reducing noise pollution and having very little impact on the surrounding environment, without reasonable maintenance and repair costs.

23. Many insecurities, fears, and doubts stem from lack of understanding or lack of knowledge about something. The more you understand and know about a situation, the more comfortable you will be and thus the less power your shyness will have over you. Let's take for example the subject of public speaking. This is an activity that terrifies most people half to death, but only because most people don't have much knowledge about it. If you do some research and investigation, you'll come to learn that it's perfectly natural to be terrified of public speaking, and that almost every single person has the same fears and insecurities that you do. When you take it further and ask yourself why you are so terrified of this, you'll come to learn that you are scared of being judged, or of being laughed at. From there, you can go and read and learn about people who are good at public speaking—learn their tips and strategies. This way you are much more prepared because your knowledge on the subject is vast. As a result of this, your confidence will





already be much higher than before, which might allow you to attempt public speaking when you join a club like Toastmasters. As you practice more, you will naturally become even more confident. This rule applies to any area where you feel insecure. Read and research as much about the topic as possible. This will help increase your confidence enough to give the activity a try to see if you might be able to become better at it. And that initial confidence to take action is all you need to get the ball rolling and overcome your shyness.

**Answer:**

Public speaking, an activity that terrifies most people half to death, but only because they do not have much knowledge about it, terrifies you as you are scared of being judged or laughed at, and you can go read and learn about people good at public speaking, by which you are more prepared with higher confidence allowing you to attempt public speaking.

24. Disabled people were among the early adopters of personal computers. They were quick to appreciate that word processing programs and printers gave them freedom from dependence on others to read and write for them. Some of these disabled early adopters became very knowledgeable about what could be achieved and used their knowledge to become independent students at a high level. They also gained the confidence to ask that providers of education make adjustments so that disabled students could make better use of course software and the web, rather than just word processing. For some disability groups, information in electronic format (whether computer-based or web-based) can be more accessible than printed information. For example, people who have limited mobility or limited manual skills can find it difficult to obtain or hold printed material; visually impaired people can find it difficult or impossible to read print, but both these groups can be enabled to use a computer and, therefore, access the



information electronically. Online communication can enable disabled students to communicate with their peers on an equal basis. For example, a deaf student or a student with Asperger's syndrome may find it difficult to interact in a face-to-face tutorial, but may have less difficulty interacting when using a text conferencing system in which everyone types and reads text. In addition, people's disabilities are not necessarily visible in online communication systems; so disabled people do not have to declare their disability and are not perceived as being different.

**Answer:**

Disabled people were among the early adopters of personal computers, for some of which, information in electronic format can be more accessible than printed information, and online communication can enable disabled students to communicate with their peers on an equal basis, so people's disabilities are not necessarily visible in online communication systems and disabled people do not have to declare their disability and are not perceived as being different.

25. We live in an ageing world. While this has been recognized for some time in developed countries, it is only recently that this phenomenon has been fully acknowledged. Global communication is "shrinking" the world, and global ageing is "maturing" it. The increasing presence of older persons in the world is making people of all ages more aware that we live in a diverse and multigenerational society. It is no longer possible to ignore ageing, regardless of whether one views it positively or negatively. Demographers note that if current trends in ageing continue as predicted, a demographic revolution, wherein the proportions of the young and the old will undergo a historic crossover, will be felt in just three generations. This portrait of change in the world's population parallels the magnitude of the industrial revolution



traditionally considered the most significant social and economic breakthrough in the history of humankind since the Neolithic period. It marked the beginning of a sustained movement towards modern economic growth in much the same way that globalization is today marking an unprecedented and sustained movement toward a "global culture". The demographic revolution, it is envisaged, will be at least as powerful. While the future effects are not known, a likely scenario is one where both the challenges as well as the opportunities will emerge from a vessel into which exploration and research, dialogue and debate are poured. Challenges arise as social and economic structures try to adjust to the simultaneous phenomenon of diminishing young cohorts with rising older ones, and opportunities present themselves in the sheer number of older individuals and the vast resources societies stand to gain from their contribution. The Brundtland Report, Our Common Future (1987), defines sustainable development as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs". Implicit in this definition is the idea that the old pattern of development could not be sustained. Is this true? Development in the past was driven by growth and innovation. It led to new technologies and huge improvements in living standards. To assume that we know what the circumstances or needs of future generations will be is mistaken and inevitably leads to the debilitating sense that we are living on borrowed time. Only if we assume that society will remain static can we understand the needs of the future. The way we live today could not have been predicted twenty years ago. The sustainability paradigm fails to recognize this. It is a static view and thus places limits on human ingenuity. Similarly, a whole host of false assumptions dominate environmental thought; the scale of problems is exaggerated, the amount of resources is



underestimated and spurious links are made between areas such as green policies and profit, poverty and environmental degradation. Those of us who want a better future need to question these assumptions.

**Answer:**

The Brundtland Report defines sustainable development as the development which meets the needs of the present without compromising the ability of future generations to meet their own needs; moreover, only if we assume that society will remain static can we understand the needs of the future, and the sustainability paradigm is a static view and thus places limits on human ingenuity, and lastly, we need to question spurious links between green policies and profit.

26. On October 12, 1492 (the first day he encountered the native people of the Americas), Columbus wrote in his journal: They should be good servants. I, our Lord being pleased, will take hence, at the time of my departure, six natives for your Highnesses. These captives were later paraded through the streets of Barcelona and Seville when Columbus returned to Spain. From his very first contact with native people, Columbus had their domination in mind. For example, on October 14, 1492, Columbus wrote in his journal, with fifty men they can all be subjugated and made to do what is required of them. These were not mere words: after his second voyage, Columbus sent back a consignment of natives to be sold as slaves. Yet in an April, 1493, letter to Luis de Santangel (a patron who helped fund the first voyage), Columbus made clear that the people he encountered had done nothing to deserve ill treatment.

**Answer:**

On October 12, 1492, Columbus wrote in his journal that the native people of the Americas should be good servants; moreover, from his very first contact



with native people, Columbus had their domination in mind, and after his second voyage, Columbus sent back a consignment of natives to be sold as slaves, and lastly, in a letter to Luis de Santangel, Columbus made clear that the natives had done nothing to deserve ill treatment.

27. By living in close contact with humans, dogs have developed specific skills that enable them to interact and communicate effectively with people. Recent studies have shown that the canine brain can pick up on emotional cues contained in a person's voice, body odor and posture, and read their faces. In this study, the authors observed what happened when they presented photographs of the same two adults' faces (a man and a woman) to 26 feeding dogs. The images were placed strategically to the sides of the animals' line of sight and the photos showed a human face expressing one of the six basic human emotions: anger, fear, happiness, sadness, surprise, disgust or being neutral. The dogs showed greater response and cardiac activity when shown photographs that expressed arousing emotional states such as anger, fear and happiness. They also took longer to resume feeding after seeing these images. The dogs' increased heart rate indicated that in these cases they experienced higher levels of stress. In addition, dogs turned their heads to the left when they saw human faces expressing anger, fear or happiness. The reverse happened when the faces looked surprised, possibly because dogs view it as a non-threatening, relaxed expression. These findings, therefore, support the existence of an asymmetrical emotional modulation of dogs' brains to process basic human emotions. Negotiation is a common process in business to mainly solve business conflicts between both parties. Compromise is a basic negotiation state in which both parties give up something that they want in order to get something else they want more. Compromise usually occurs in unfair parties when there is a fixed pie to be



divided up, and whatever on one side gets, the other side loses. In compromise situations, neither side gets all of what they really want, but they each make concessions in order to reach an agreement that is acceptable to both. Both parties usually can reach win-win concept through compromise. However, negotiation cannot resolve all the conflict if one party is unwilling to resolve the problem.

**Answer:**

Negotiation is a common process in business to mainly solve business conflicts between both parties; moreover, a compromise is a basic negotiation state in which both parties give up something that they want in order to get something else they want more, and lastly, a negotiation cannot resolve all the conflict if one party is unwilling to resolve the problem.

28. A leader can define or clarify goals by issuing a memo or an executive order, an edict or a fatwa or a tweet, by passing a law, barking a command, or presenting an interesting idea in a meeting of colleagues. Leaders can mobilize people's energies in ways that range from subtle, quiet persuasion to the coercive threat or the use of deadly force. Sometimes a charismatic leader such as Martin Luther King Jr. can define goals and mobilize energies through rhetoric and the power of example. We can think of leadership as a spectrum, in terms of both visibility and the power the leader wields. On one end of the spectrum, we have the most visible: authoritative leaders like the president of the United States or the prime minister of the United Kingdom, or a dictator such as Hitler or Qaddafi. At the opposite end of the spectrum is casual, low-key leadership found in countless situations every day around the world, leadership that can make a significant difference to the individuals whose lives are touched by it. Over the centuries, the first kind—the out-in-front, authoritative leadership—has generally been exhibited by men. Some





men in positions of great authority, including Nelson Mandela, have chosen a strategy of “leading from behind”; more often, however, top leaders have been quite visible in their exercise of power. Women (as well as some men) have provided casual, low-key leadership behind the scenes. But this pattern has been changing, as more women have taken up opportunities for visible, authoritative leadership. If you are inspired to take concrete action for global peace and development, take a look at the United Nations Volunteers (UNV) program. Every year, up to 8,000 qualified and experienced women and men of some 160 different nationalities volunteer at least six months of their lives to help others. These UN Volunteers work in some 130 countries promoting peace, responding to disasters, empowering communities and helping to build sustainable livelihoods and lasting development. UN Volunteers come from dozens of professional backgrounds but all of them are catalysts of positive change. They are encouraged to be creative and entrepreneurial, and foster volunteerism for peace and development both within and beyond their assignments. They work at the heart of communities in partnership with governments, United Nations entities and civil society. Being a UN Volunteer is not a career (you are currently limited to four years of service), but it is rich with opportunities and experience and offers huge personal rewards. As a UN Volunteer you receive a Volunteer Living Allowance (VLA) which covers basic needs, housing and utilities. Additionally, UNV will provide a settling-in-grant, life, health, and permanent disability insurance, return airfares and a nominal resettlement allowance.

**Answer:**

Every year, up to 8,000 qualified and experienced women and men of some 160 different nationalities volunteer to help others at the United Nations Volunteers (UNV) program; moreover, these UN Volunteers work in some 130



countries promoting peace, responding to disasters, empowering communities and helping to build sustainable livelihoods and lasting development, and lastly, being a UN Volunteer is not a career, but it is rich with opportunities and experience and offers huge personal rewards.

29. Negotiation is a common process in business to mainly solve business conflicts between both parties. Compromise is a basic negotiation state in which both parties give up something that they want in order to get something else they want more. Compromise usually occurs in unfair parties when there is a fixed pie to be divided up, and whatever on one side gets, the other side loses. In compromise situations, neither side gets all of what they really want, but they each make concessions in order to reach an agreement that is acceptable to both. Both parties usually can reach win-win concept through compromise. However, negotiation cannot resolve all the conflict if one party is unwilling to resolve the problem.

**Answer:**

In the process of negotiation, compromise is a basic negotiation state in which both parties give up something and get something else in order to reach an agreement that is acceptable to both, but negotiation cannot resolve all the conflict if one party is unwilling to resolve the problem.

30. Tim Berners-Lee believes the internet can foster human understanding and even world peace. He is the man who has changed the world more than anyone else in the past hundred years. Sir Tim Berners-Lee may be a mild-mannered academic who lives modestly in Boston, but as the inventor of the world wide web he is also a revolutionary. Along with Galileo, William Caxton and Sir Isaac Newton, he is a scientist who has altered the way people think as well as the way they live Since the web went global 20 years ago, the way we shop, listen to music and communicate has been transformed. There are



implications for politics, literature, economics even terrorism because an individual can now have the same access to information as the elite. Society will never be the same. The computer scientist from Oxford, who built his own computer from a television screen and spare parts after he was banned from one of the university computers, is a cultural guru as much as a technological one. It is amazing how far we've come, he says. But you're always wondering what's the next crazy idea, and working to make sure the web stays one web and that the internet stays open. There isn't much time to sit back and reflect. We speak for more than an hour about everything from Facebook to fatwas, Wikipedia to Google. He invented the web, he says, because he was frustrated that he couldn't find all the information he wanted in one place. It was an imaginary concept that he realized.

**Answer:**

Tim- Berners-Lee, the inventor of the world wide web, is a revolutionary scientist who has altered the way people think as well as the way they live, believing the internet can foster human understanding and even world peace, because an individual now have the same access to information as the elite; there is not much time to sit back and reflect because society will never be the same.

31. With the population growth, the demand for resources has been growing as well. There is an expected increase in demand for various alternative resources, raw materials, timber for paper using, (...energy... materials...). The increase of demand also happens in the non-renewable resource field, such as metal. The demand for petrol, diesel and crude oil is also huge to cope with the demand for manufacturing plastics. People should ensure natural world can still work well to earn the future wellbeing because the world population rises.



Answer:

There is an expected increase in demand for various alternative resources, but people should ensure natural world can still work well to earn the future well-being because the world population rises.

32. Brand loyalty exists when consumers repeat-purchase your brand rather than swapping and switching between brands. It is widely agreed that it is far more expensive to have to find a new customer than to keep existing ones happy, so brand loyalty is crucial for achieving high-profit margins. For charities, it is important to set a marketing objective of improving brand loyalty. If existing donors can be persuaded to set up a direct debit to the charity, its cash flow will improve significantly. Although some brands stay fresh for generations (Marmite is over 100 years old) others become jaded due to changes in consumer tastes and lifestyles. At this point, the firms need to refresh the brand image to keep the products relevant to the target market. A clear objective must be set. For instance: what brand attributes do we want to create? What do we want the brand to stand for? This occurs when a firm aims to a change a brand's image, so that the brand appeals to a new target market. Twelve years into its life cycle, McVitie's decided to reposition its Hobnobs biscuit brand. Hobnobs had been positioned as a homely, quite healthy biscuit for middle-aged consumers. Research pointed McVitie's in a new direction: younger, more male, and less dull. So new packaging was designed and then launched in conjunction with a new, brighter advertising campaign. In 2013 Hobnobs sales were worth 36 million pounds, 9 percent up on the previous year.

Answer:

33. When people start thinking about language, the first question which often occurs to them is this: is language natural to humans? - in the same way that



grunting is natural to pigs, and barking comes naturally to dogs. Or is it just something we happen to have learned? - in the same way that dogs may learn to beg, or elephants may learn to waltz, or humans may learn to play the guitar. Clearly, in one sense, children 'learn' whatever language they are exposed to, be it Chinese, Nootka or English. So no one would deny that 'learning' is very important. But the crucial question is whether children are born with 'blank sheets' in their head as far as language is concerned - or whether humans are 'programmed' with an outline knowledge of the structure of languages in general. This question of whether language is partly due to nature or wholly due to learning or nurture is often referred to as the nature-nurture controversy, and has been discussed for centuries. For example, it was the topic of one of Plato's dialogues, the Cratylus. Controversies which have been going on for literally ages tend to behave in a characteristic fashion. They lie dormant for a while, then break out fiercely. This particular issue resurfaced in linguistics in 1959 when the linguist Noam Chomsky wrote a devastating and witty review of Verbal Behavior, a book by the Harvard psychologist B.F. Skinner (Skinner 1957; Chomsky 1959). This book claimed to 'explain' language as a set of habits gradually built up over the years. According to Skinner, no complicated innate or mental mechanisms are needed. All that is necessary is the systematic observation of the events in the external world which prompt the speaker to utter sounds.

**Answer:**

This question of whether language is partly due to nature or wholly due to learning or nurture is often referred to as the nature-nurture controversy, because this issue resurfaced in linguistics when the linguist Noam Chomsky wrote a devastating and witty review of Verbal Behavior, while Skinner's book



claimed to 'explain' language as a set of habits gradually built up over the years.

34. Many technologies have promised these qualities, but few have been commercially viable. What's been lacking is the performance data needed to demonstrate that these technologies are durable, genuinely environmentally beneficial, and suitable to be insured. Over the past 13 years, our Department of Architecture & Civil Engineering has led on research into straw as a low-impact building material. This work, which has included developing a unique straw bale panel as well as scientific monitoring and testing, has now culminated in crucial industry certifications. The BM TRADA's Q-Mark certification guarantees a straw building's energy efficiency, fire safety, durability and weather-resilience and means that developers and homebuyers can now get insurance and mortgages for straw homes and buildings. The innovative straw walls in the new houses provide two times more insulation than required by current UK building regulations. Based on monitoring a residential straw-bale development in Leeds, fuel bill reductions up to 90% can be expected. The walls have been built using ModCell technology; prefabricated panels consisting of a wooden structural frame infilled with straw bales or hemp and rendered with either a breathable lime-based system or ventilated timber or brick cladding. This technology combines the lowest carbon footprint and the best operational CO<sup>2</sup> performance of any system of construction currently available. In fact, as an agricultural co-product, straw buildings can be carbon negative as straw absorbs CO<sup>2</sup> when it grows.

**Answer:**

Our Department has led research into straw as a low-impact building material and the BM TRADA's Q-Mark certification guarantees a straw





building's energy efficiency, fire safety, durability and weather-resilience as the technology combines the lowest carbon footprint and the best operational CO<sup>2</sup> performance, which enables the innovative straw walls to provide insulation and reduce fuel bills.

35. In such an environment, warfare is no longer purely directed against the military potential of adversarial states. It is rather directed at infiltrating all areas of their societies and to threaten their existences. The comparatively easy access to weapons of mass destruction, in particular relatively and low-cost biological agents, is of key concern. Both governmental and non-governmental actors prefer to use force in a way that can be characterized as "unconventional" or also as "small wars." War waged according to conventions is an interstate phenomenon. The "small war" is the archetype of war, in which the protagonists acknowledge no rules and permanently try to violate what conventions do exist. The protagonists of the "small war" observe neither international standards nor arms control agreements. They make use of territories where they do not have to fear any sanctions because there is no functioning state to assume charge of such sanctions or because the state in question is too weak to impose such sanctions. This type of war does not provide for any warning time. It challenges not only the external security of the nation states and international community, but also their internal safety.

**Answer:**

Since warfare is directed at infiltrating all areas of society, the easy access to weapons of mass destruction is of key concern, but both governmental and non-governmental actors prefer to use "small wars" in which the protagonists acknowledge no rules and observe neither international standards nor arms control agreements by making use of territories with no sanctions, which



challenges both the external security and the internal safety of the nation states and the international community.

36. Malaysia is one of the most pleasant, hassle-free countries to visit in Southeast Asia. Aside from its gleaming 21st century glass towers, it boasts some of the most superb beaches, mountains and national parks in the region. Malaysia is also launching its biggest-ever tourism campaign in effort to lure 20 million visitors here this year. Any tourist itinerary would have to begin in the capital, Kuala Lumpur, where you will find the Petronas Twin Towers, which once comprised the world tallest buildings and now hold the title of second-tallest. Both the 88-story towers soar 1,480 feet high and are connected by a sky-bridge on the 41st floor. The limestone temple Batu Caves, located 9 miles north of the city, have a 328-foot-high ceiling and feature ornate Hindu shrines, including a 141-foot tall gold-painted statue of a Hindu deity. To reach the caves, visitors have to climb a steep flight of 272 steps. In Sabah state on Borneo island not to be confused with Indonesia's Borneo you'll find the small mushroom-shaped Sipadan island, off the coast of Sabah, rated as one of the top five diving sites in the world. Sipadan is the only oceanic island in Malaysia, rising from a 2,300-foot abyss in the Celebes Sea. You can also climb Mount Kinabalu, the tallest peak in Southeast Asia, visit the Sepilok Orang Utan Sanctuary, go white-water rafting and catch a glimpse of the bizarre Proboscis monkey, a primate found only in Borneo with a huge pendulous nose, a characteristic pot belly and strange honking sounds. While you're in Malaysia, consider a trip to Malacca. In its heyday, this southern state was a powerful Malay sultanate and a booming trading port in the region. Facing the Straits of Malacca, this historical state is now a place of intriguing Chinese streets, antique shops, old temples and reminders of European colonial powers. Another interesting destination is Penang, known



as the Pearl of the Orient. This island off the northwest coast of Malaysia boasts of a rich Chinese cultural heritage, good food and beautiful beaches.

**Answer:**

While Malaysia is one of the most pleasant countries to visit in Southeast Asia, it is also launching its biggest-ever tourism campaign to lure more visitors this year, and people can visit lots of places, such as the Petronas Twin Tower in Kuala Lumpur, the limestone temple Batu Caves, the Sipadan island in Sabah, the Mount Kinabalu as well as Malacca.

37. According to new research, house mice (*Mus musculus*) are ideal biomarkers of human settlement as they tend to stow away in crates or on ships that end up going where people go. Using mice as a proxy for human movement can add to what is already known through archaeological data and answer important questions in areas where there is a lack of artifacts, Searle said. Where people go, so do mice, often stowing away in carts of hay or on ships. Despite a natural range of just 100 meters (109 yards) and an evolutionary base near Pakistan, the house mouse has managed to colonize every continent, which makes it a useful tool for researchers like Searle. Previous research conducted by Searle at the University of York supported the theory that Australian mice originated in the British Isles and probably came over with convicts shipped there to colonize the continent in the late 18th and 19th centuries. In the Viking study, he and his fellow researchers in Iceland, Denmark and Sweden took it a step further, using ancient mouse DNA collected from archaeological sites dating from the 10th to 12th centuries, as well as modern mice. He is hoping to do just that in his next project, which involves tracking the migration of mice and other species, including plants, across the Indian Ocean, from South Asia to East Africa.

**Answer:**



House mice can be used as ideal biomarkers of human settlement to add to what is already known through archaeological data and answer important questions where there is a lack of artifacts, which has been supported by the research conducted by Searle of Australian mice and the DNA matching of ancient mouse and modern mouse in the Viking study.

38. THE BOOKSELLERS OF HOOKHAM AND CARPENTER (hereafter referred to only as Hookham) were located on New Bond Street in London, and their records span the most politically turbulent decade of the eighteenth-century the 1790's. Clients who frequented Hookham were primarily from the aristocratic or gentry classes. In fact, of Hookham's total buyers, 22% were aristocracy, and 35% of the aristocracy purchased novels. We can also confidently assume that untitled female customers were of gentry income because their addresses were primarily in London's fashionable West End. Hookham's ledgers not only reveal a dramatic increase in the proportion of female purchasers of novels by comparison to earlier studies of provincial women, but they also reveal a remarkable increase in the proportion of female purchases of novels authored by females. Such a marked increase illustrates that Hookham's leisured female customers were able to buy more novels. Furthermore, the fact that these female aristocrats and gentry have accounts under their own name, not their husbands, demonstrates the greater degree of agency and independence that these urban, moneyed women had relative to provincial women. However, because our study does not include an examination of male customers, we are very limited in what claims we can make about whether or not these women behaved according to the cliché that women were the predominant consumers of novels in the eighteenth-century. Moreover, while more disposable income and leisure time certainly accounts for the significant increase in female purchases of novels authored by women



in the 1790s, this increase also strongly suggests a desire on the part of women readers to engage in this politically charged decade. Thus, novel-reading provided women readers with the means through which they were able to participate in the male-dominated world of politics. The latter part of our paper will more fully explore this hypothesis in the context of certain recent literary scholars claims that both Gothic and sentimental novels are actively engaged in political debate and discussion.

**Answer:**

According to the Hookham's found, there is a dramatic increase in the proportion of female purchasers of novels and purchases of novels authored by females, and also, these female aristocrats and gentry have accounts under their own names, and more disposal income and leisure time certainly account for the significant increase, thus more female were able to participate in the male-dominated world of politics.

39. The British Crime Survey (BCS) provides an important source of information about levels of crime, public attitudes to crime and other related issues. The results play an important role in informing Home Office policy. The BCS measures the amount of crime in England and Wales by asking people about crimes they have experienced in the last year. This includes crimes not reported to the police, so it is an important alternative to police records. Victims do not report crime for various reasons, and without the BCS there would be no official source of information on these unreported crimes. Because members of the public are asked directly about their experiences, the survey also provides a consistent measure of crime that is unaffected by the extent to which crimes are reported to the police, or by changes in the criteria used by the police when recording crime. The survey also helps to identify those most at risk of different types of crime, and this helps in the



planning of crime prevention programs. The BCS also examines people's attitudes to crime, such as how much they fear crime and what measures they take to avoid it. The survey also covers attitudes to the Criminal Justice System (CJS), including the police and the courts, and has also been successful at developing special measures to estimate the extent of domestic violence, stalking and sexual victimization, which are probably the least reported to the police, but among the most serious of crimes in their impact on victims.

**Answer:** The British Crime Survey provides an important source of information, and the survey also provides a consistent measure of crime that is unaffected, which means that the survey also helps to identify those most at risk of different types of crime, so the BCS also examines people's attitudes to crime; the survey also covers attitudes to the Criminal Justice System.

40. When an individual drives a car, heats a house, or uses an aerosol hair spray, greenhouse gases are produced. In economic terms, this creates a classic negative externality. Most of the cost (in this case, those arising from global warming) are borne by individuals other than the one making the decision about how many miles to drive or how much hair spray to use. Because the driver (or sprayer) enjoys all the benefits of the activities but suffers only part of the cost, that individual engages in more than the economically efficient amount of the activity. In this sense, the problem of greenhouse gases parallels the problem that occurs when someone smokes a cigarette in an enclosed space or litters the countryside with fast-food wrappers. If we are to get individuals to reduce production of greenhouse gases to the efficient rate, we must somehow induce them to act as though they bear all the costs of their actions. The two most widely accepted means of doing this are





government regulation and taxation, both of which have been proposed to deal with greenhouse gases.

**Answer:**

While an individual's behaviors produced greenhouse gases, he enjoys all the benefits but suffers only part of the costs, so we must induce individuals to act as though they bear all the costs of their actions if we want individuals to reduce production of greenhouse gases to the efficient rate, and the two most widely accepted means to deal with greenhouse gases are government regulations and taxation.

41. American English is, without doubt, the most influential and powerful variety of English in the world today. There are many reasons for this. First, the United States is, at present, the most powerful nation on earth and such power always brings with it influence. Indeed, the distinction between a dialect and a language has frequently been made by reference to power. As has been said, a language is a dialect with an army. Second, America's political influence is extended through American popular culture, in particular through the international reach of American films (movies, of course) and music. As Kahane has pointed out, the internationally dominant position of a culture results in a forceful expansion of its language... the expansion of language contributes... to the prestige of the culture behind it. Third, the international prominence of American English is closely associated with the extraordinarily quick development of communications technology. Microsoft is owned by an American, Bill Gates. This means a computer's default setting for language is American English, although of course this can be changed to suit one's own circumstances. In short, the increased influence of American English is caused by political power and the resultant diffusion of American culture and media,



technological advance, and the rapid development of communications technology.

**Answer:**

While American English is a dialect with an army because the United States is the most powerful nation on the earth and such power brings with it influence, America's political influence is extended through American popular culture which also results in an expansion of its language, and the international prominence of American English is associated with the quick development of communications technology, which suggests American English is the most influential and powerful variety of English.

42. We live in an ageing world. While this has been recognized for some time in developed countries, it is only recently that this phenomenon has been fully acknowledged. Global communication is "shrinking" the world, and global ageing is "maturing" it. The increasing presence of older persons in the world is making people of all ages more aware that we live in a diverse and multigenerational society. It is no longer possible to ignore ageing, regardless of whether one views it positively or negatively. Demographers note that if current trends in ageing continue as predicted, a demographic revolution, wherein the proportions of the young and the old will undergo a historic crossover, will be felt in just three generations. This portrait of change in the world's population parallels the magnitude of the industrial revolution traditionally considered the most significant social and economic breakthrough in the history of humankind since the Neolithic period. It marked the beginning of a sustained movement towards modern economic growth in much the same way that globalization is today marking an unprecedented and sustained movement toward a "global culture". The demographic revolution, it is envisaged, will be at least as powerful. While the future effects



are not known, a likely scenario is one where both the challenges as well as the opportunities will emerge from a vessel into which exploration and research, dialogue and debate are poured. Challenges arise as social and economic structures try to adjust to the simultaneous phenomenon of diminishing young cohorts with rising older ones, and opportunities present themselves in the sheer number of older individuals and the vast resources societies stand to gain from their contribution.

**Answer:**

As it is fully acknowledged that we live in an ageing world, a powerful demographic revolution will be a possible result if current trends in ageing continue as predicted, which will not only bring challenges of adjusting social and economic structures but also opportunities to present themselves in older people and vast resources.

43. In 2005 Japan had the highest median age of all countries in the world, while Australia's population was only moderately aged. Some 50 years ago the demographic situation was quite different, with the median age of Australia's population being seven years older than Japan's. The ageing of the population is a major issue for Australian policy makers, particularly in regard to the long-term implications for reduced economic growth and the increasing demand for Age Pensions, and health and aged care services. As the population ages, growth in the number of people of working age will slow, while the proportion of people of retirement age will increase. Sustained population ageing also leads to slowing or negative population growth. While declining population growth in developed countries is welcomed by some environmentalists and social scientists, economists tend to agree that population decline brings gloomy economic prospects. In addition to the decrease in the labor supply, the demand side of the economy may be



affected through shrinking markets for goods and services. How quickly this occurs depends on the dynamics of fertility, mortality and overseas migration. While a moderate pace of demographic change allows for gradual adjustment of the economy and policies to the changing population demographics, rapid changes are more difficult to manage. As a result, governments and society as a whole may need to take actions to address these issues. But how severe is the ageing of Australia's population, relative to other countries? One way of applying a degree of perspective to the ageing debate is to compare ageing in Australia with that of other countries. This article examines the population structures in Australia and Japan and the demographic forces that shape the respective populations, both historically and projections for the future.

**Answer:**

While Australia's population was moderately aged, the ageing of the population is still a major issue for Australian policy makers because it not only has long-term implications for reduced economic growth and the increasing demand for Age Pensions and aged care services, but also leads to slowing or negative population growth, so governments and society need to take actions to address these issues together.

44. The age-old question of whether human traits are determined by nature or nurture has been answered, a team of researchers say. Their conclusion? It's a draw. By collating almost every twin study across the world from the past 50 years, researchers determined that the average variation for human traits and disease is 49 percent due to genetic factors and 51 percent due to environmental factors. University of Queensland researcher Beben Benyamin from the Queensland Brain Institute collaborated with researchers at VU University of Amsterdam to collate 2,748 studies involving more than 14.5



million pairs of twins. "Twin studies have been conducted for more than 50 years but there is still some debate in terms of how much the variation is due to genetic or environmental factors," Benjamin said. He said the study showed the conversation should move away from nature versus nature, instead looking at how the two work together. "Both are important sources of variation between individuals," he said. While the studies averaged an almost even split between nature and nurture, there was wide variation within the 17,800 separate traits and diseases examined by the studies. For example, the risk for bipolar disorder was found to be 68 percent due to genetics and only 32 percent due to environmental factors. Weight maintenance was 63 percent due to genetics and 37 percent due to environmental factors. In contrast, risk for eating disorders was found to be 40 percent genetic and 60 percent environmental, whereas the risk for mental and behavioral disorders due to use of alcohol was 41 percent genetic and 59 percent environmental. Benjamin said in psychiatric, ophthalmological and skeletal traits, genetic factors were a larger influence than environmental factors. But for social values and attitudes it was the other way around.

45. A miner in the state of Chiapas found a tiny tree frog that has been preserved in amber for 25 million years, a researcher said. If authenticated, the preserved frog would be the first of its kind found in Mexico, according to David Grimaldi, a biologist and curator at the American Museum of Natural History, who was not involved in the find. The chunk of amber containing the frog, less than half an inch long, was uncovered by a miner in Mexico's southern Chiapas state in 2005 and was bought by a private collector, who loaned it to scientists for study. A few other preserved frogs have been found in chunks of amber – a stone formed by ancient tree sap – mostly in the Dominican Republic. Like those, the frog found in Chiapas appears to be of the genus *Craugastor*,



whose descendants still inhabit the region, said biologist Gerardo Carbot of the Chiapas Natural History and Ecology Institute. Carbot announced the discovery this week. The scientist said the frog lived about 25 million years ago, based on the geological strata where the amber was found. Carbot would like to extract a sample from the frog's remains in hopes of finding DNA that could identify the particular species but doubts the owner would let him drill into the stone.

**Answer:**

A miner in Mexico found a tiny tree frog preserved in amber for 25 million years, which would be the first of its kind found in Mexico, with a few other preserved frogs found in chunks of amber, and Carbot would like to extract a sample from the frog's remains to find DNA that could identify the particular species but the owner may not allow.

46. Although we tend to think of electric cars as being something completely modern, they were in fact some of the earliest types of motorized vehicle. At the beginning of the twentieth century electric cars were actually more popular than cars with an internal combustion engine as they were more comfortable to ride in. However, as cars fueled by petrol increased in importance, electric cars declined. The situation became such that electric vehicles were only used for certain specific purposes - as fork-lift trucks, ambulances and urban delivery vehicles, for example. Although electricity declined in use in road vehicles, it steadily grew in importance as a means of powering trains. Switzerland, for example, was quick to develop an electrified train system, encouraged in this no doubt by the fact that it had no coal or oil resources of its own. Nowadays there is renewed interest in electricity as a means of powering road vehicles. Why is this the case? Well, undoubtedly economic reasons are of considerable importance. The cost of oil has risen so





sharply that there is a strong financial imperative to look for an alternative. However, there are also environmental motivations. Emissions from cars are blamed in large part for - among other things - the destruction of the ozone layer and the resultant rise in temperatures in the polar regions. A desire not to let things get any worse is also encouraging research into designing effective electric transport.

**Answer:**

Although electric cars were actually more popular than cars with an internal combustion engine as they were more comfortable to ride in, they declined because cars fuelled by petrol increased in importance, ; however because of economic reasons and environmental motivations, nowadays there is renewed interest in electricity as a means of powering road vehicles.

47. The feature of being "double blind", where neither patients nor physicians are aware of who receives the experimental treatment, is almost universally trumpeted as being a virtue of clinical trials. Hence, trials that fail to remain successfully double blind are regarded as providing inferior evidential support. The rationale for this view is unobjectionable: double blinding rules out the potential confounding influences of patient and physician beliefs. Nonetheless, viewing double blind trial as necessarily superior is problematic. For one, it leads to the paradox that very effective experimental treatments will not be supportable by best evidence. If a new drug were to make even the most severe symptoms of the common cold disappear within seconds, most participants and investigators would correctly identify it as the latest wonder drug and not the control (i.e. placebo) treatment. Any trial testing the effectiveness of this wonder drug will therefore fail to remain double blind. Similar problems arise for treatments, such as exercise and most surgical techniques, whose nature makes them resistant to being tested in double



blind conditions. It seems strange that an account of evidence should make priori judgments that certain claims can never be supported by 'best evidence'. It would be different if the claims at issue were pseudoscientific – untestable. But so far as treatments with large effects go, the claim that they are effective is highly testable and intuitively they should receive greater support from the evidence than do claims about treatments with moderate effects.

**Answer:**

While double blind is a virtue of clinical trials because it rules out the potential confounding influences of patients and physician beliefs, viewing double blind trial as necessarily superior is problematic because it leads to the paradox that effective experimental treatments will not be supportable by the best evidence, but claims treatments are effective is highly testable and intuitively they should receive greater support from the evidence than do claims about treatments with moderate effects.

48. The Home Office's periodic British Crime Survey estimates that the true level of crime (the sorts, anyway, which inform the official figures) is about four times that which is registered in the annual statistics. Quite often, especially in the financial services sector, businesses do not report crimes against themselves for fear of lowering their public image. Many citizens today are not insured against car theft or property loss (because they cannot afford the premiums) so they have no incentive to tell the police if they become victims. A steep statistical rise in crime can sometimes arise not from a real growth in a particular type of conduct but from a new policing policy – offences of "lewd dancing" rose by about 300 per cent during 12 months in the 1980s in Manchester, but only because the zealous Chief Constable James Anderton had deployed a great many officers in gay night clubs. Sometimes the



enactment of a new range of offences or the possibility of committing old offences in a new way (like computer offences involving fraud and deception) can cause an upward jolt in crime levels. The figures just released show a startling jump in street robbery but much of this seems to be a very particular crime: the theft of the now ubiquitous mobile phones. Conversely, if crimes like joyriding and some assaults are kept out of the categories measured in the annual statistics, as is the case, the official figures do not reflect even what is reported to the police as criminal. The way that criminal statistics are compiled by the Home Office is also relevant. From April 1998, police forces started to count crime in a way which, according to the government, will give "a more robust statistical measure".

**Answer:**

There are several reasons that contribute to a rise in crime rate including those businesses do not report crimes against themselves for fear of lowering their public image, that citizens have no incentive to tell police if they become victims, a new policing policy, the enactment of a new range of offenses or the possibility of committing old offenses in a new way, and the way that criminal statistics are compiled by the Home Office.

49. Consider the current situation: like their counterparts in the United States, engineers and technicians in India have the capacity to provide both computer programming and innovative new technologies. Indian programmers and high-tech engineers earn one-quarter of what their counterparts earn in the United States; Consequently, India is able to do both jobs at a lower dollar cost than the United States: India has absolute advantage in both. In other words, it can produce a unit of programming for fewer dollars than the United States, and it can also produce a unit of technology innovation for fewer dollars. Does that mean that the United



States will lose not only programming jobs but innovative technology job, too? Does that mean that our standard of living will fall if the United States and India engage in the international trade? David Ricardo would have answered no to both questions – as we do today. While India may have an absolute advantage in both activities, that fact is irrelevant in determining what India or the United States will produce. India has a comparative advantage in doing programming in part because of such activity requires little physical capital. The flip side is that the United States has a comparative advantage in technology innovation partly because it is relatively easy to obtain capital in this country to undertake such long-run projects. The result is that Indian programmers will do more and more of what U.S. programmers have been doing in the past. In contrast, American firms will shift to more and more innovation.

**Answer:**

While India might have absolute advantage in providing both computer programming and innovative new technologies because of the low cost, the United States has a comparative advantage in technology innovation because of easier capital obtaining, which suggests that Indian programmers will do more and more of what U.S. programmers have been doing in the past and American firms will shift to more and more innovation.

50. Human remains are a fundamental part of the archaeological record, offering unique insights into the lives of individuals and populations in the past. Recently a new set of challenges to the study of human remains has emerged from a rather unexpected direction: the British government revised its interpretation of nineteenth-century burial legislation in a way that would drastically curtail the ability of archaeologists to study human remains of any age excavated in England and Wales. This paper examines these



extraordinary events and the legal, political and ethical questions that they raise. In April 2008 the British government announced that, henceforth, all human remains archaeologically excavated in England and Wales should be reburied after a two-year period of scientific analysis. Not only would internationally important prehistoric remains have to be returned to the ground, removing them from public view, but also there would no longer be any possibility of long-term scientific investigation as new techniques and methods emerged and developed in the future. Thus, while faunal remains, potsherds, artifacts and environmental samples could be analyzed and re-analyzed in future years, human remains were to be effectively removed from the curation process. Archaeologists and other scientists were also concerned that this might be the first step towards a policy of reburying all human remains held in museum collections in England and Wales including prehistoric, Roman, Saxon, Viking and Medieval as well as more recent remains.

**Answer:**

While human remains are the fundamental part for analysis and interpretation of any archaeological records, they still need to be reburied after a two-year scientific period because of the appearance and development of new technologies and methods, so human remains should be removed from the curation process with scientists concerned that this might be the first step towards a policy of reburying all human remains.

51. With an abundance of low-priced labor relative to the United States, it is no surprise that China, India and other developing countries specialize in the production of labor intensive products. For similar reasons, the United States will specialize in the production of goods that are human and physical capital intensive because of the relative abundance of a highly educated labour



force and technically sophisticated equipment in the United States. This division of global production should yield higher global output of both types of goods than would be the case if each country attempted to produce both of these goods itself. For example, the United States would produce more expensive labour intensive goods because of its more expensive labor and the developing countries would produce more expensive human and physical capital intensive goods because of their relative scarcity of these inputs. This logic implies that the United States is unlikely to be a significant global competitor in the production green technologies that are not relatively intensive in human and physical capital. Nevertheless, during the early stages of the development of a new technology, the United States has a comparative advantage in the production of the products enabled by this innovation. However, once these technologies become well understood and production processes are designed that can make use of less skilled labor; production will migrate to countries with less expensive labor.

**Answer:**

While developing countries specialize in labor-intensive production because of the abundance of lowpriced labor, the United States specializes in human and physical capital intensive production because of the abundance of highly educated labor force and technically sophisticated equipment, suggesting the global production should yield higher global output of both types of goods, but once technologies become well understood and production processes are designed, production will migrate to countries with less expensive labor.

52. As warmer winter temperatures become more common, one way for some animals to adjust is to shift their ranges northward. But a new study of 59 North American bird species indicates that doing so is not easy or quick -- it





took about 35 years for many birds to move far enough north for winter temperatures to match where they historically lived. The researchers used 35 years of data from the North American Christmas Bird Count to match winter temperatures to where birds were seen. They tested 59 bird species individually and found that they responded differently to climate change. When summarized across bird species, there was evidence for a strong delay lasting about 35 years. For example, black vultures have spread northward in the last 35 years and now winter as far north as Massachusetts, where the minimum winter temperature is similar to what it was in Maryland in 1975. On the other hand, the endangered red-cockaded woodpecker did not alter its range at all despite the warming trend, possibly because it's very specific habitat requirements precluded a range shift. Both of these scenarios could represent problems for birds, La Sorte said. Species that do not track changes in climate may wind up at the limits of their physiological tolerance, or they may lose important habitat qualities, such as favored food types, as those species pass them by. But they also can't move their ranges too fast if the habitat conditions they depend on also tend to lag behind climate. If warming trends weaken, as they did over the past few years, birds may be able to catch up. But accelerated warming, which is likely as global carbon emissions continue to increase, may put additional strain on birds. The study highlights these challenges and the high potential climate change has for disrupting natural systems. It also underscores the challenges ecologists face in predicting the long-term consequences of climate change for many species simultaneously.

**Answer:**

As warmer winter temperatures become more common, a new study of 59 bird species found that shifting birds' range northward is not that easy and



quick enough and different species responded differently to climate change, which highlights the challenges and the high potential climate change has for disrupting natural systems.

53. Promoting active lifestyles can help us address some of the important challenges facing the UK today. Increasing physical activity has the potential to improve the physical and mental health of the nation, reduce all-cause mortality and improve life expectancy. It can also save money by significantly easing the burden of chronic disease on the health and social care services. Increasing cycling and walking will reduce transport costs, save money and help the environment. Fewer car journeys can reduce traffic, congestion and pollution, improving the health of communities. Other potential benefits linked to physical activity in children and young people include the acquisition of social skills through active play (leadership, teamwork and co-operation), better concentration in school and displacement of anti-social and criminal behavior. The importance of physical activity for health was identified over 50 years ago. During the 1950s, comparisons of bus drivers with more physically active bus conductors and office-based telephonists with more physically active postmen demonstrated lower rates of coronary heart disease and smaller uniform sizes in the more physically active occupations. This research led the way for further investigation, and evidence now clearly shows the importance of physical activity in preventing ill health. It is important for us to be active throughout our lives. Physical activity is central to a baby's normal growth and development. This continues through school, and into adulthood and older years. Being physically active can bring substantial benefits and there is consistent evidence of a dose-response relationship, i.e., the greater the volume of physical activity undertaken, the greater the health benefits that are obtained.



Answer:

While increasing physical activity has the potential to not only improve the physical and mental health of the nation but also save money, other potential benefits linked to physical activity in children and young people include the acquisition of social skills, better concentration in school and displacement of anti-social and criminal behavior, which suggests that promoting active lifestyles can help us address some of the important challenges facing the UK today.

54. In its periodic quest for culinary identity, Australia automatically looks to its indigenous ingredients, the foods that are native to this country. 'There can be little doubt that using an indigenous product must qualify a dish as Australian notes Stephanie Alexander. Similarly, and without qualification, states that 'A uniquely Australian food culture can only be based upon foods indigenous to this country, although, as Crow remarks, proposing Australian native foods as national symbols relies more upon their association with 'nature' and geographic origin than on common usage. Notwithstanding the lack of justification for the premise that national dishes are, of necessity, founded on ingredients native to the country—after all, Italy's gastronomic identity is tied to the non-indigenous tomato, Thailand's to the non-indigenous chili—the reality is that Australians do not eat indigenous foods in significant quantities. The exceptions are fish, crustaceans and shellfish from oceans, rivers and lakes, most of which are unarguably unique to this country. Despite valiant and well-intentioned efforts today at promoting and encouraging the consumption of native resources, bush foods are not harvested or produced in sufficient quantities for them to be a standard component of Australian diets, nor are they generally accessible. Indigenous foods are less relevant to



Australian identity today than lamb and passionfruit, both initially imported and now naturalized.

**Answer:**

In its periodic quest for culinary identity, Australia automatically looks to its indigenous ingredients, the foods that are native to this country, notwithstanding the lack of justification for the premise that national dishes are founded on ingredients native to the country and the reality that Australians do not eat indigenous foods in significant quantities, and indigenous foods are less relevant to Australian identity today than lamb and passionfruit, both initially imported and now naturalized.

55. American English is, without doubt, the most influential and powerful variety of English in the world today. There are many reasons for this. First, the United States is, at present, the most powerful nation on earth and such power always brings with it influence. Indeed, the distinction between a dialect and a language has frequently been made by reference to power. As has been said, a language is a dialect with an army. Second, America's political influence is extended through American popular culture, in particular through the international reach of American films (movies, of course) and music. As Kahane has pointed out, the internationally dominant position of a culture results in a forceful expansion of its language... the expansion of language contributes... to the prestige of the culture behind it. Third, the international prominence of American English is closely associated with the extraordinarily quick development of communications technology. Microsoft is owned by an American, Bill Gates. This means a computer's default setting for language is American English, although of course this can be changed to suit one's own circumstances. In short, the increased influence of American English is caused by political power and the resultant diffusion of American culture and media,



technological advance, and the rapid development of communications technology.

**Answer:**

While American English is a dialect with an army because the United States is the most powerful nation on the earth and such power brings with it influence, America's political influence is extended through American popular culture which also results in an expansion of its language, and the international prominence of American English is associated with the quick development of communications technology, which suggests American English is the most influential and powerful variety of English.

56. Assessment is a central process in education. If students learned what they were taught, we would never need to assess; we could instead just keep records of what we had taught. But as every teacher knows, many students do not learn what they are taught. Indeed, when we look at their work, it is sometimes hard to believe that they were in the classroom. In fact, it is impossible to predict with any certainty what students will learn as the result of a particular sequence of classroom activities. And because we cannot teach well without finding out where our students are starting from, we have to assess. Even if all our students started out at the same point (a highly unlikely situation!), each of them will have reached different understandings of the material being studied within a very short period of time. That is why assessment is the bridge between teaching and learning—it is only through assessment that we can find out whether what has happened in the classroom has produced the learning we intended. Of course, assessment is also used for other purposes in education, which makes the picture much more complicated. In all countries, assessments of the performance of individual students are used to determine which students are, and which



students are not, qualified for subsequent phases of education, and also to decide which kinds of education students should receive.

**Answer:**

Assessment is a central process in education and a bridge between teaching and learning as many students do not learn what they are taught because they have reached different understandings of the material being studied, but assessment is also used for other purposes in education such as assessments of the performance of students, and also to decide which kinds of education students should receive.

57. The Brundtland Report, *Our Common Future* (1987), defines sustainable development as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs". Implicit in this definition is the idea that the old pattern of development could not be sustained. Is this true? Development in the past was driven by growth and innovation. It led to new technologies and huge improvements in living standards. To assume that we know what the circumstances or needs of future generations will be is mistaken and inevitably leads to the debilitating sense that we are living on borrowed time. Only if we assume that society will remain static can we understand the needs of the future. The way we live today could not have been predicted twenty years ago. The sustainability paradigm fails to recognize this. It is a static view and thus places limits on human ingenuity. Similarly, a whole host of false assumptions dominate environmental thought; the scale of problems is exaggerated, the amount of resources is underestimated and spurious links are made between areas such as green policies and profit, poverty and environmental degradation. Those of us who want a better future need to question these assumptions.

**Answer:**





Although the implicit of sustainable development is that the old pattern of development which was driven by innovation and led to huge improvements could not be sustained, we assume that society remains static and we can understand the needs of the future, which means that sustainability paradigm fails to recognize that the way we live today couldn't be predicted and placed limits on human ingenuity, so we need to question these assumptions.

58. We can't see it, but brains hum with electrical activity. Brain waves created by the coordinated firing of huge collections of nerve cells pinball around the brain. The waves can ricochet from the front of the brain to the back, or from deep structures all the way to the scalp and then back again. Called neuronal oscillations, these signals are known to accompany certain mental states. Quiet alpha waves ripple soothingly across the brains of meditating monks. Beta waves rise and fall during intense conversational turns. Fast gamma waves accompany sharp insights. Sluggish delta rhythms lull deep sleepers, while dreamers shift into slightly quicker theta rhythms. Researchers have long argued over whether these waves have purposes, and what those purposes might be. Some scientists see waves as inevitable but useless by-products of the signals that really matter – messages sent by individual nerve cells. Waves are simply a consequence of collective neural behavior, and nothing more, that view holds. But a growing body of evidence suggests just the opposite: instead of by-products of important signals, brain waves are key to how the brain operates, routing information among far-flung brain regions that need to work together. MIT's Earl Miller is among the neuroscientists amassing evidence that waves are an essential part of how the brain operates. Brain oscillations deftly route information in a way that allows the brain to choose which signals in the world to pay attention to and which to ignore, his recent studies suggest.



59. The extraordinary flying ability of dandelion seeds is possible thanks to a form of flight that has not been seen before in nature, research has revealed. The discovery, which confirms the common plant among the natural world's best fliers, shows that movement of air around and within its parachuteshaped bundle of bristles enables seeds to travel great distances – often a kilometer or more, kept afloat entirely by wind power. Researchers from the University of Edinburgh carried out experiments to better understand why dandelion seeds fly so well, despite their parachute structure being largely made up of empty space. Their study revealed that a ring-shaped air bubble forms as air moves through the bristles, enhancing the drag that slows each seed's descent to the ground. This newly found form of air bubble – which the scientists have named the separated vortex ring – is physically detached from the bristles and is stabilized by air flowing through it. The amount of air flowing through, which is critical for keeping the bubble stable and directly above the seed in flight, is precisely controlled by the spacing of the bristles. This flight mechanism of the bristly parachute underpins the seeds' steady flight. It is four times more efficient than what is possible with conventional parachute design, according to the research. Researchers suggest that the dandelion's porous parachute might inspire the development of small-scale drones that require little or no power consumption. Such drones could be useful for remote sensing or air pollution monitoring.
60. People differ greatly in all aspects of what is casually known as intelligence. The differences are apparent not only in school, from kindergarten to college, but also in the most ordinary circumstances: in the words people use and comprehend, in their differing abilities to read a map or follow directions, or in their capacities for remembering telephone numbers or figuring change. The variations in these specific skills are so common that they are often taken for



granted. Yet what makes people so different? It would be reasonable to think that the environment is the source of differences in cognitive skills – that we are what we learn. It is clear, for example, that human beings are not born with a full vocabulary; they have to learn words. Hence, learning must be the mechanism by which differences in vocabulary arise among individuals. And differences in experience – say, in the extent to which parents model and encourage vocabulary skills or in the quality of language training provided by schools – must be responsible for individual differences in learning. Earlier in this century, psychology was in fact dominated by environmental explanations for variance in cognitive abilities. More recently, however, most psychologists have begun to embrace a more balanced view: one in which nature and nurture interact in cognitive development. During the past few decades, studies in genetics have pointed to a substantial role for heredity in molding the components of intellect, and researchers have even begun to track down the genes involved in cognitive function. These findings do not refute the notion that environmental factors shape the learning process. Instead they suggest that differences in people’s genes affect how easily they learn.

61. It's very easy to forget about what's in the ground beneath our feet and why it's so important to protect it. One tablespoon of soil contains more organisms than there are people on Earth; billions of bacteria, fungi and other microorganisms combine with minerals, water, air and organic matter to create a living system that supports plants and, in turn, all life. Healthy soil can store as much as 3,750 tons of water per hectare, reducing the risk of flooding, and the International Panel on Climate Change (IPCC) has said that 89% of all agricultural emissions could be mitigated if we improved the health of our soil. Good soil management also increases disease resistance in livestock and



ultimately drives profits for farmers – yet soil and its impact on the health of our animals has, over recent decades, been one of the most neglected links in UK agriculture. Over the last 50 years' agriculture has become increasingly dependent on chemical fertilizers, with applications today around 10 times higher than in the 1950s. Farmers often think the chemical fertilizer NPK (nitrogen, phosphorous and potassium) provides all the nutrition a plant requires, but it also has a detrimental effect on the long-term health of the land: research suggests there are fewer than 100 harvests left in many of the world's soils.

**Answer:** Soil, containing so many organisms, combine with minerals, water, air and organic matter to create a living system for all life, which reduces the risk of flooding, mitigates agricultural emissions, increases disease resistance in livestock and ultimately drives profits for farmers, but soil and its impact on the health of our animals has been one of the most neglected links in UK agriculture because they use fertilizers, which has a detrimental effect on the land.

62. Banks provide short-term finance to companies in the form of an overdraft on a current account. The advantage of an overdraft is its flexibility. When the cash needs of the company increase with seasonal factors, the company can continue to write cheques and watch the overdraft increase. When the goods and services are sold and cash begins to flow in, the company should be able to watch the overdraft decrease again. The most obvious example of a business which operates in this pattern is farming. The farmer uses the overdraft to finance the acquisition of seed for arable farming, or feed through the winter for stock farming and to cover the period when the crops or animals are growing and maturing. The overdraft is reduced when the crops or the animals are sold. The main disadvantage of an overdraft is that it





is repayable on demand. The farmer whose crop fails because of bad weather knows the problem of being unable to repay the overdraft. Having overdraft financing increases the worries of those who manage the company. The other disadvantage is that the interest payable on overdrafts is variable. When interest rates increase, the cost of the overdraft increases. Furthermore, for small companies there are often complaints that the rate of interest charged is high compared with that available to larger companies. The banks answer that the rates charged reflect relative risk and it is their experience that small companies are more risky.

**Answer:** Banks provide short-term finance to companies in the form of an overdraft, with the advantage of flexibility, and the most obvious example is farming, but the main disadvantages of an overdraft are that it is repayable on demand and the interest payable on overdrafts is variable because when interest rates increase, the cost of the overdraft increases.

63. Research shows that when people work with a positive mind-set, performance on nearly every level – productivity, creativity, engagement – improves. Yet happiness is perhaps the most misunderstood driver of performance. For one, most people believe that success precedes happiness. “Once I get a promotion, I’ll be happy,” they think. Or, “Once I hit my sales target, I’ll feel great.” But because success is a moving target – as soon as you hit your target, you raise it again, the happiness that results from success is fleeting. In fact, it works the other way around: People who cultivate a positive mind-set perform better in the face of challenge. I call this the “happiness advantage” – every business outcome shows improvement when the brain is positive. I’ve observed this effect in my role as a researcher and lecturer in 48 countries on the connection between employee happiness and success. And I’m not alone: In a meta-analysis of 225 academic studies,



researchers Sonja Lyubomirsky, Laura King, and Ed Diener found strong evidence of directional causality between life satisfaction and successful business outcomes. Another common misconception is that our genetics, our environment, or a combination of the two determines how happy we are. To be sure, both factors have an impact. But one's general sense of well-being is surprisingly malleable. The habits you cultivate, the way you interact with coworkers, how you think about stress – all these can be managed to increase your happiness and your chances of success.

**Answer:**

People who cultivate a positive mind-set perform better in the face of challenge, which is called "happiness advantage", supported by strong evidence of directional causality between life satisfaction and successful business outcomes, and another common misconception is that our genetics, our environment, or a combination of the two determines how happy we are, despite the fact that one's general sense of well-being is surprisingly malleable.

64. Ethics is a set of moral obligations that define right and wrong in our practices and decisions. Many professions have a formalized system of ethical practices that help guide professionals in the field. For example, doctors commonly take the Hippocratic Oath, which, among other things, states that doctors "do no harm" to their patients. Engineers follow an ethical guide that states that they "hold paramount the safety, health, and welfare of the public." Within these professions, as well as within science, the principles become so ingrained that practitioners rarely have to think about adhering to the ethic – it's part of the way they practice. And a breach of ethics is considered very serious, punishable at least within the profession (by revocation of a license, for example) and sometimes by the law as well. Scientific ethics calls for honesty





and integrity in all stages of scientific practice, from reporting results regardless to properly attributing collaborators. This system of ethics guides the practice of science, from data collection to publication and beyond. As in other professions, the scientific ethic is deeply integrated into the way scientists work, and they are aware that the reliability of their work and scientific knowledge in general depends upon adhering to that ethic. Many of the ethical principles in science relate to the production of unbiased scientific knowledge, which is critical when others try to build upon or extend research findings. The open publication of data, peer review, replication, and collaboration required by the scientific ethic all help to keep science moving forward by validating research findings and confirming or raising questions about results.

**Answer:**

Within the professions, where many professions have a formalized system of ethical practices, ethical principles become so ingrained that practitioners rarely have to think about adhering to the ethic, a set of moral obligations defining right and wrong, and scientific ethics, deeply integrated into the way scientists work, calls for honesty and integrity in all stages of scientific practice, which guides the practice, with the ethical principles relating to the production of unbiased scientific knowledge.

65. Working nine to five for a single employer bears little resemblance to the way a substantial share of the workforce makes a living today. Millions of people assemble various income streams and work independently, rather than in structured payroll jobs. This is hardly a new phenomenon, yet it has never been well measured in official statistics and the resulting data gaps prevent a clear view of a large share of labor-market activity. To better understand the independent workforce and what motivates the people who participate in it,



the McKinsey Global Institute surveyed some 8,000 respondents across Europe and the United States. We asked about their income in the past 12 months—encompassing primary work, as well as any other income-generating activities, and about their professional satisfaction and aspirations for work in the future. The resulting report, independent work: Choice, necessity, and the gig economy, finds that up to 162 million people in Europe and the United States—or 20 to 30 percent of the working-age population – engage in some form of independent work. While demographically diverse, independent workers largely fit into four segments (exhibit): free agents, who actively choose independent work and derive their primary income from it; casual earners, who use independent work for supplemental income and do so by choice; reluctant, who make their primary living from independent work but would prefer traditional jobs; and the financially strapped, who do supplemental independent work out of necessity.

**Answer:**

To better understand the independent workforce and what motivates millions of people who assemble various income streams and work independently, researchers surveyed respondents across Europe and the United States, about their income, professional satisfaction and aspirations for work in the future, finding up to 162 million people there engage in some form of independent work, and they largely fit into four segments: free agents, casual earners, reluctant, and the financially strapped.

66. A day would come, Percy Shelley predicted in 1813, when "the monopolizing eater of animal flesh would no longer destroy his constitution by eating an acre at a meal". He explained: "The quantity of nutritious vegetable matter consumed in fattening the carcass of an ox would afford 10 times the sustenance if gathered immediately from the bosom of the earth." Two



hundred years later, mainstream agronomists and dietitians have caught up with the poet. A growing scientific consensus agrees that feeding cereals and beans to animals is an inefficient and extravagant way to produce human food, that there is a limited amount of grazing land, that the world will be hard-pressed to supply a predicted population of 9 billion people with a diet as rich in meat as the industrialized world currently enjoys, and that it's not a very healthy diet anyway. On top of this, livestock contribute significantly towards global warming, generating 14.5% of all manmade greenhouse gas emissions, according to one much-quoted estimate from the United Nations. Now that the problem has been identified, the challenge is to persuade people in wealthy countries to eat less meat. That might seem a tall order, but governments have successfully persuaded people to quit smoking through a combination of public information, regulation and taxation.

**Answer:**

A scientific consensus agrees feeding cereals and beans to animals is an inefficient and extravagant way to produce human food as a very healthy diet, with a limited amount of grazing land, the world hard-pressed to supply a predicted population of 9 billion with a meat-rich diet, livestock contributing significantly towards global warming, and now the challenge is to persuade people to eat less meat, as governments have persuaded people to quit smoking through taxation.

67. Ecology is the study of interactions of organisms among themselves and with their environment. It seeks to understand patterns in nature (e.g., the spatial and temporal distribution of organisms) and the processes governing those patterns. Climatology is the study of the physical state of the atmosphere – its instantaneous state or weather, its seasonal-to-interannual variability, its long-term average condition or climate, and how climate changes over time.



These two fields of scientific study are distinctly different. Ecology is a discipline within the biological sciences and has as its core the principle of natural selection. Climatology is a discipline within the geophysical sciences based on applied physics and fluid dynamics. Both, however, share a common history. The origin of these sciences is attributed to Aristotle and Theophrastus and their books Meteorological and Enquiry into Plants, respectively, but their modern beginnings trace back to natural history and plant geography. Seventeenth, eighteenth, and nineteenth century naturalists and geographers saw changes in vegetation as they explored new regions and laid the foundation for the development of ecology and climatology as they sought explanations for these geographic patterns. Alexander von Humboldt, in the early 1800s, observed that widely separated regions have structurally and functionally similar vegetation if their climates are similar. Alphonse de Candolle hypothesized that latitudinal zones of tropical, temperate, and arctic vegetation are caused by temperature and in 1874 proposed formal vegetation zones with associated temperature limits.

**Answer:**

The origin of ecology, the study of interactions of organisms among themselves and with their environment, and climatology, the study of the physical state of the atmosphere, is attributed to Aristotle and Theophrastus, but their modern beginnings trace back to natural history and plant geography, with naturalists and geographers saw changes in vegetation while exploring new regions and laying the foundation for ecology and climatology as they sought explanations for these geographic patterns.

68. Current research into the nature of the relationship between participation in physical activity/sport and educational performance has produced mixed, inconsistent and often non-comparable results. For example, some cross-



sectional studies illustrate a positive correlation between participation in sport and physical activity and academic success (e.g., math's, reading, acuity, reaction times). However, critics point to a general failure to solve the issue of direction of cause – whether intelligence leads to success in sport, whether involvement in sport enhances academic performance, or whether a third factor (e.g. personality traits) explains both. Longitudinal studies also generally support the suggestion that academic performance is enhanced, or at least maintained, by increased habitual physical activity. Yet such studies are criticized for not being definitive because some do not use randomized allocation of pupils to experimental and control groups (to control for pre-existing differences), others tend to use (subjective) teacher-assigned grades to assess academic achievement, rather than standardized and comparable tests; and some programmers include parallel interventions, making it difficult to isolate specific effects. More generically, one key piece of research illustrates that both acute exercise and chronic training programmers have small, but beneficial, positive impacts on cognitive performance. However, this study concludes that as experimental rigor decreased, effect size increased. Further, generalization is limited because effect size is influenced by the nature and type of exercise, the type of participants, the nature of the cognitive tests and the methodological quality of the study.

**Answer:**

Current research into the nature of the relationship between participation in physical activity/sport and educational performance has produced mixed, inconsistent, and often non-comparable results, including conclusions that academic performance is enhanced or at least maintained, by increased habitual physical activity and that both acute exercise and chronic training



programs have small, but beneficial, positive impacts on cognitive performance.

69. An international team of scientists is set to go to Arctic to investigate the Greenland shark longevity mystery. The shark is known to be the longest living vertebrate animal on the planet Earth. One of the members is Dr. Holy Shiels, a physiologist and senior lecturer in the Faculty of Life Sciences at the University of Manchester. She will be the only British scientist in the team to study Greenland shark, which is believed to be the vertebrate animals and mammals with the longest living. The shark is reported to have lived for more than 200 years, and possibly close to or more than 400 years. The shark is both hunter and a scavenger, that feed on seals and other animals including polar bears and whales. It is also known as one of the largest sharks, reaching to five and a half meters (18 feet), very close to the size of a great white. The research team is commissioned by the Greenland government and will conduct the research on board the multi-purpose research vessel Sanna, operated by the Greenland Institute of Natural Resources. A Greenland shark is estimated to be able to live for 400 years according to Science Magazine. Professor Shiels expects to gather sufficient data of Greenland shark, a top predator in the Arctic Sea. She wanted to find a clue of how Greenland shark is able to survive in the deep sea of the Arctic Sea, by examining how its heart and circulation work in its normal habitat, as she specializes in the cardiovascular function. "Greenland sharks are classified as data deficient," Shiels said. "This means that we don't know enough to put measures in place to protect them from over-fishing, pollution or climate change."

**Answer:**

Greenland sharks, which are believed to be the vertebrate animals and mammals with the longest living and one of the largest sharks, are classified





as data deficient, which means that people don't know enough to protect them from over-fishing, pollution or climate change, so an international team of scientists is set to go to Arctic to investigate the Greenland shark longevity mystery.

70. **Skipping Breakfast Has Drawbacks** – It's no mystery why so many people routinely skip breakfast: bad timing. It comes at a time when folks can be more occupied with matters of grooming, attire and otherwise making themselves presentable for a new day. However, studies conducted both in the United States and internationally have shown that skipping breakfast can affect learning, memory and physical well-being. Students who skip breakfast are not as efficient at selecting critical information for problem-solving as their peers who have had breakfast. For school children, skipping breakfast diminishes the ability to recall and use newly acquired information, verbal fluency, and control of attention, according to Ernesto Pollitt, a UC Davis professor of pediatrics whose research focuses on the influence of breakfast on mental and physical performance. Skipping breakfast can impair thinking in adults, also. For both children and adults, a simple bowl of cereal with milk goes a long way toward providing a sufficiently nutritious start to the day. Green-Burgeson recommends choosing a cereal that's low in sugar – less than five grams per serving – and using nonfat or one percent milk. Frederick Hirshburg, a pediatrician at UC Davis Medical Group, Carmichael, says that babies and other preschoolers rarely skip breakfast because they're usually the hungriest at the beginning of the day. Breakfast then becomes more of a "learned experience" than a response to a biological need, Hirshburg says.

**Answer:** Skipping breakfast has drawbacks for both children and adults, for whom a simple bowl of cereal milk can provide a nutritious start to the day,



but babies and other preschoolers rarely skip breakfast because they are usually the hungriest at the beginning of the day, so breakfast then becomes more of a "learned experience" than a response to a biological need.

71. What is known as prior knowledge or pre-existing knowledge is the knowledge, skill or ability that a learner brings to a new learning encounter. This includes all knowledge that is available before the learning event, and which has been gathered or developed by any means, and in any situation, including both formal and, quite often, informal learning situations. Learners need enough previous knowledge and understanding to enable them to learn new things; they also need help making links with new and previous explicit knowledge. It is considered to be valuable to go through a process of what has been called activating prior knowledge. Teachers often go through this process at the beginning of a new topic. They also use introductory strategies at the beginning of lessons which are continuations from previous lessons. In terms of the practicalities of teaching, this is a process of making children think about the topic or remember what has been covered already. In terms of theory, it is to do with activating particular schemas.
72. Currently, Americans only eat about 16 grams of fiber – the parts of plants that can't be digested – per day. That's way less than the 25 to 30 grams that's recommended. There are so many reasons why, from fast-food marketing to agriculture subsidies, but one contributing factor is the slow death of cooking, and the rise of the restaurant meal. Americans now spend more on food at restaurants than they do at grocery stores, but restaurant food tends to have even less fiber than the food we would otherwise eat at home. One problem seems to be that restaurant meals aren't typically loaded with two of the best sources of fiber, unprocessed fruits and vegetables. A revealing study from 2007, in which researchers interviewed 41 restaurant





executives, showed that restaurants think fruits and vegetables are too expensive to feature prominently on the menu, and “61 percent said profits drive menu selections.” They also opposed labeling certain menu items as healthier choices, saying that would be “the kiss of death.” So people like to eat out, and when they do, they prefer mushy, fiber-free comfort foods. But that’s a pretty dangerous road to go down.

73. According to Dr. Ron Fessenden, M.D., M.P.H. the average American consumes more than 150 pounds of refined sugar, plus an additional 62 pounds of high fructose corn syrup every year. In comparison, we consume only around 1.3 pounds of honey per year on average in the U.S. According to new research, if you can switch out your intake of refined sugar and use pure raw honey instead, the health benefits can be enormous. What is raw honey? Its a pure, unfiltered and unpasteurized sweetener made by bees from the nectar of flowers. Most of the honey consumed today is processed honey that's been heated and filtered since it was gathered from the hive. Unlike processed honey, raw honey does not get robbed of its incredible nutritional value and health powers. It can help with everything from low energy to sleep problems to seasonal allergies. Switching to raw honey may even help weight-loss efforts when compared to diets containing sugar or high fructose corn syrup. I'm excited to tell you more about one of my all-time favorite natural sweeteners today.

**Answer:**

According to new research, if you can switch out your intake of defined sugar and use pure raw honey instead, the health benefits can be enormous, and unlike processesd honey, raw honey is a pure, unfiltered, and unpasteurized sweetener made by bees and does not get robbed of its incredible nutritional



value and health power, which can help with low energy, sleep problems, seasonal allergies, and even weight-loss.

74. It might seem a little eccentric, but reviewing your work by reading it aloud can help to identify the woolliest areas. This works best if you perform your reading in a theatrical way, pausing at the commas and ends of sentences. If you run out of breath during a sentence, it is probably too long. You ought to be able to convert your writing into a speech in this way if it sounds too stilted and convoluted, perhaps you could rework these parts until they sound fluid. It is unlikely that your reader will be fooled by the idea that long words make you sound clever. Cluttering a sentence with too many complicated words can prevent its meaning from being understood at all. A short word is always preferable to a long one. Why should anyone choose the word erroneous over the word wrong in an essay? Usually, writers who employ more obscure words are trying to sound impressive but can appear pretentious. Direct words enable you to control what you are saying, and are not necessarily babyish, but the most appropriate ones for the job. When you read your writing aloud, you will notice that the key stress comes at the end of your sentence. It is, therefore, most effective to end with a short and emphatic word to secure your point. Try to resist the impulse to waffle at the end of your sentence by trailing off into qualifying clauses. It might be worth relocating the clause to the beginning of the sentence or losing it altogether if you feel that it adds little to its meaning. Your sentences might be the most grammatically perfect in the world, but still, cause your writing to sound wrong if you have misjudged its tone. A colloquial style, which uses slang and exclamations, is an inappropriately chatty tone for an essay. However, style can be equally jarring if your vocabulary is too formal or ambitious for its context. It is much more impressive to make complicated points using simple language and grammar.



Answer:

Reviewing your work by reading it aloud can help to identify the woolliest areas, including cluttering a sentence with too many complicated words, which can prevent its meaning from being understood because direct words enable you to control what you are saying, and your sentences might be the most grammatically perfect while a colloquial style is an inappropriate tone for an essay and style can be jarring if your vocabulary is too formal or ambitious.

75. Asda has become the first food retailer in the country to measure how much customers can save by cutting back on food waste, thanks to a Knowledge Transfer Partnership (KTP) with the University of Leeds. The idea behind the KTP was for the University, using Asda's customer insight data, to apply its research to identify, investigate and implement ways of helping customers to reduce their food waste. This was one of the first times that a major retailer had tried to deliver large-scale sustainability changes, with the two year project seen as a way for Asda to position themselves as true innovators in this area. The campaign focused on providing customers with advice on everything from food storage and labelling, to creative recipes for leftovers. Meanwhile, in-store events encouraged customers to make changes in their own. They will make changes to how they deal with food waste in their own homes, leading to an average saving of 57 pounds per customer, as well as a reduction in waste. A key aspect of a KTP is that an associate is employed by the University to work in the firm and help deliver the desired outcomes of the KTP. As a part of the collaboration with Asda, Laura Babbs was given the task of driving forward the sustainability changes in the retailer. As a result of the success of her work, Laura eventually became a permanent member of the team at Asda.



Answer:

Asda has become the first food retailer in the country to measure how much customers can save by cutting back on food waste, with a campaign focusing on providing customers with advice on everything from food storage and labelling, to creative recipes for leftovers, and with in-store events encouraging customers to make changes in their own, and an associate is employed by the University to work in the firm.

76. Over the years, language teachers have alternated between favoring teaching approaches that focus primarily on language use and those that focus on language forms or analysis. The alternation has been due to a fundamental disagreement concerning whether one learns to communicate in a second language by communicating in that language (such as in an immersion experience) or whether one learns to communicate in a second language by learning the lexico grammar – the words and grammatical structures – of the target language. In other words, the argument has been about two different means of achieving the same end. As with any enduring controversy, the matter is not easily resolved. For one thing, there is evidence to support both points of view. It is not uncommon to find learners who, for whatever reason, find themselves in a new country or a new region of their own country, who need to learn a new language, and who do so without the benefit of formal instruction. If they are postpubescent, they may well retain an accent of some kind, but they can pick up enough language to satisfy their communicative needs. In fact, some are natural acquirers who become highly proficient in this manner. In contrast, there are learners whose entire exposure to the new language comes in the form of classroom instruction in lexicogrammar. Yet they too achieve a measure of communicative proficiency, and certain of these learners become highly proficient as well.





What we can infer from this is that humans are amazingly versatile learners and that some people have a natural aptitude for acquiring languages and will succeed no matter what the circumstances.

**Answer:**

A fundamental disagreement, concerning whether one learns to communicate in a second language by an immersion experience or learning the lexicogrammar, is not easily resolved, as it is common to find learners in a new country who learn a new language without the benefit of formal instruction, as well as learners whose entire exposure to the new language comes in the form of classroom instruction in lexicogrammar, which means that humans are versatile learners.

77. Humans love to complain to each other. It helps us feel less alone. Think about what happens when a family member or friend is going through a tough time; they call up someone who will listen to their tale of woe. Unfortunately, negative bonding is the default for many groups. In some families, complaining is the only way to get attention. When one person says, I had a bad day; the other person has to top it, "You think you had a tough day. I had to do three TPS reports!" The same thing happens at work and social settings. "Your child didn't sleep through the night until 6 months? Mine was a full year old before she went over six hours." It's a race to the bottom, and the worst situation wins. In *Bitching is Bonding, A Guide To Mutual Complaint*, Irene S. Levine, Ph.D., a professor of psychiatry at the NYU Langone School of Medicine says, "The reason why these conversations feel good is because we feel understood." People raised in negative environments learn early on. Being positive gets you thrown out of the club. When family dinner is a complaint fest, you're not going to risk alienation saying, "Wow, I had an awesome day. Don't you just love life?" Translate this into a work setting: people, often



unconsciously, believe being positive keeps you out of the cool club. When negativity provides bonding, humans are reluctant to abandon the behavior that brings them comfort.

**Answer:** With complaining to each other helping us feel less alone and understood and in some families being the only way to get attention, negative bonding is the default for many groups, because people believe being positive keeps you out of the cool club, while they are reluctant to abandon the behavior that brings them comfort.

78. In 1953 B.F. Skinner visited his daughter's maths class. The Harvard psychologist found every pupil earning the same topic in the same way at the same speed. A few days later he built his first "teaching machine", which let children tackle questions at their own pace. By the mid-1960s similar gizmos were being flogged by door-to-door salesmen. Within a few years, though, enthusiasm for them had fizzled out. Since then education technology (edtech) has repeated the cycle of hype and flop, even as computers have reshaped almost every other part of life. One reason is the conservatism of teachers and their unions. But another is that the brain-stretching potential of edtech has remained unproven. Today, however, Skinner's heirs are forcing the sceptics to think again (see article). Backed by billionaire techies such as Mark Zuckerberg and Bill Gates, schools around the world are using new software to "personalize" learning. This could help hundreds of millions of children stuck in dismal classes—but only if edtech boosters can resist the temptation to revive harmful ideas about how children learn. To succeed, edtech must be at the service of teaching, not the other way around. The conventional model of schooling emerged in Prussia in the 18th century. Alternatives have so far failed to teach as many children as efficiently. Classrooms, hierarchical year-groups, standardized curriculums and fixed



timetables are still the norm for most of the world's nearly 1.5bn schoolchildren.

**Answer:**

Despite education technology, which must be at the service of teaching, having repeated the cycle of hype and flop, schools around the world are using new software to "personalize" learning, helping hundreds of millions of children stuck in dismal classes, but alternatives of the conventional model of schooling failed to teach as many children as efficiently, with classrooms, hierarchical year-groups, standardized curriculums and fixed timetables being still the norm for most of the world's schoolchildren.

79. The area that is now South Africa has been inhabited by humans for millennia. The San, the original inhabitants of this land, were migratory people who lived in small groups of about 15 to 20 people. They survived by fishing and hunting and by gathering roots and other wild foods. They did not build permanent dwellings but used rock shelters as temporary dwellings. Around 2,000 years ago Khoikhoi pastoralists migrated to the coast. In the eastern part of present-day South Africa, iron-working societies date from about 300 AD. The Sotho-Tswana and Nguni peoples arrived in this region around 1,200 AD. They lived by agriculture and stock farming, mined gold, copper and tin and hunted for ivory and built stone-walled towns. Over the centuries, these societies had diverse contacts with the Khoisan. Strife between the San and the Khoikhoi developed over competition for game; eventually the Khoikhoi became dominant. These peoples lived in the western part of present-day South Africa and are known collectively as the Khoisan.

**Answer:**

The area that is now South Africa has been inhabited by humans for millennia, as the San, the original inhabitants of this land, were migratory people and around 2,000 years ago Khoikhoi pastoralists migrated to the coast; the



Sotho-Tswana and Nguni people arrived in this region around 1,200 AD, but eventually the Khoikhoi became dominant, and these people lived in the western part of present-day South Africa and are known as the Khoisan.

80. If women are so far ahead of men, why are they so far behind? Reports from both sides of the Atlantic show that female students dominate university courses, yet women still do not make it to the top. A report on inequality in the UK said last week that girls had better educational results than boys at 16, went to university in greater numbers and achieved better degrees once they got there. "More women now have higher education qualifications than men in every age group up to age 44," the report said. In the US, 57 per cent of college graduates in 2006-07 were women. Women form the majority of all graduates under 45. Yet few women make it to the boards of companies in either country. In the UK, the proportion of women on FTSE 100 boards rose fractionally from 11.7 per cent to 12.2 per cent last year, according to the Cranfield University School of Management, but that was only because of a fall in the size of the boards. In the US, women accounted for 15.2 per cent of board seats on Fortune 500 companies, according to Catalyst, the research organization, which said the numbers had barely budged for five years. The hopeful way of looking at this is that the rising generation of female graduates has yet to reach director age. Give it 10 years and they will dominate boards as they do universities. If that were true, however, we would surely see the number of women director numbers moving up by now. The first year that women college graduates outnumbered men in the US was 1982. These graduates must be entering their 50s – prime director age.

**Answer:**

More women now have higher education qualifications than men in every age group up to age 44, and women form the majority of all graduates under 45,



which means that we would surely see the number of women director numbers moving up by now, so the younger generation of women is thriving in the workplace; there was still a large pay gap.

81. They call it the “marshmallow test.” A four- to six-year-old-child sits alone in a room at a table facing a marshmallow on a plate. The child is told: “If you don’t eat this treat for 15 minutes you can have both it and a second one.” Kids on average wait for five or six minutes before eating the marshmallow. The longer a child can resist the treat has been correlated with higher general competency later in life. Now a study shows that ability to resist temptation isn’t strictly innate—it’s also highly influenced by environment. Researchers gave five-year-olds used crayons and one sticker to decorate a sheet of paper. One group was promised a new set of art supplies for the project—but then never received it. But the other group did receive new crayons and better stickers. Then both groups were given the marshmallow test. The children who had been lied to waited for a mean time of three minutes before eating the marshmallow. The group that got their promised materials resisted an average of 12 minutes. Thus, the researchers note that experience factors into a child’s ability to delay gratification. When previous promises have been hollow, why believe the next one.

**Answer:**

The “marshmallow test” showed that the longer a child can resist the treat has been correlated with higher general competency later in life, but now a study shows that the ability to resist temptation isn’t strictly innate—it’s also highly influenced by environment and experience, which can factor into a child’s ability to delay gratification.

82. As economic troubles stops flare up around the globe, the earning estimates of American firms who do business abroad begin to flatten. Without these



international consumers to buy their products, there are fewer sales, which means that inventories pile up. When there is more supply than demand, prices go down. Lower prices would normally cause demand to pick up, but in an uncertain economy people tend to postpone purchases. We see this tendency in the American economy with computer products where consumers believe that the prices will go down if they wait another six months, so they decide to hold off. This tendency causes further gluts in the market, which eventually leads manufacturers to slow production. They lay off workers, causing domestic consumption to fall further since there is less money to buy goods. These effects ripple throughout the economy and create a deflationary spiral that can lead to a recession or even a depression.

**Answer:**

Fewer sales, which means that inventories pile up and there is more supply than demand, lead to prices going down, which normally cause demand to pick up, and people to tend to postpone purchases, and further gluts in the market, which eventually lead manufacturers to slow production, and cause domestic consumption to fall further since there is less money to buy goods.

83. A farming technique practiced for centuries by villagers in West Africa, which converts nutrient-poor rainforest soil into fertile farmland, could be the answer to mitigating climate change and revolutionizing farming across Africa. A global study by researchers has for the first-time identified and analyzed rich fertile soils found in Liberia and Ghana. They discovered that the ancient West African method of adding charcoal and kitchen waste to highly weathered, nutrient poor tropical soils can transform the land into enduringly fertile, carbon-rich black soils which the researchers dub 'African Dark Earths'. Similar soils created by Amazonian people in pre-Columbian eras have recently been discovered in South America – but the techniques people used to create





these soils are unknown. Moreover, the activities which led to the creation of these anthropogenic soils were largely disrupted after the European conquest. Encouragingly researchers in the West Africa study were able to live within communities as they created their fertile soils. This enabled them to learn the techniques used by the women from the indigenous communities who disposed of ash, bones and other organic waste to create the African Dark Earths.

**Answer:**

As a farming technique in West Africa can convert nutrient-poor rainforest soil into fertile farmland, researchers discovered enduringly fertile, carbon-rich black soils named 'African Dark Earths', and similar soils in pre-Columbian eras have also been discovered although the techniques are unknown, so researchers in the West Africa study were able to live within communities as they created their fertile soils, which could be the answer to mitigating climate change and revolutionizing farming across Africa.

Gurully



## Write Essay

1. For a less developed country, the disadvantages of tourism are as great as the advantages. What is your opinion?
2. Nowadays, people believe that the environment influences their accomplishments. Some people think their success and accomplishment were influenced by the places where they grew up. Do you think the environment does or does not affect people's accomplishment and how it affects? Please give an example of a famous person to support your statement.
3. More and more women are managing to combine raising a family and following a career. Some people believe this is a challenge for women. Please give your suggestions about this challenge on a personal level and a national level.
4. Some people think learning a foreign language at school should be compulsory. To what extent do you agree with it? Use your experience or examples to support your viewpoint.
5. It is harder for children growing up in the 21st century than it was in the past. How far do you agree with this statement? Give your opinions.
6. Some people say there should be a maximum wage for high-paying jobs. Do you support that? Can you give your point of view or your own experience?
7. Some people prefer to live in cities, while some people prefer to live in the countryside. Which is better for you? Give your reasons or experience.
8. While artificial intelligence becomes so advanced, people can use computers to translate foreign languages. That makes learning a foreign language unnecessary. To what extent do you agree with it?



9. In some companies employers take workers' opinions into consideration of products and services. Discuss the advantages and disadvantages.
10. How does the design of building affect, either positively or negatively, where people work and live?
11. Some people think schools should group students according to their academic abilities while others think students can achieve better performance in mixed groups. Discuss both opinions and give your own opinion.
12. As national services, which one deserve to receive more financial support, education or health?
13. In the past 100 years, there have been many inventions such as antibiotics, airplanes and computers. What do you think is the most important of them? Why?
14. Some universities deduct marks from students' works if they are given in late. What is your opinion and suggest some alternative actions?
15. Some countries have free health services. However, some people claim that those who live unhealthy lives should not receive free health services. Do you agree or disagree with this statement?
16. Do you agree that privatization of public sector undertakings is beneficial to society?
17. Many believe that many kinds of media simultaneously communicating to people help people get correct information. Do you agree with it?
18. Television serves many functions. It helps people to relax. We can learn from TV programs. Besides, TV can also be seen as a companion for lonely people. To what extent do you agree with this? Explain it with your own experience.
19. Some large factories are built near the communities. What are the benefits and problems of this phenomenon?



20. Movies and television have a bad influence on people's behaviors. To what extent do you agree with this statement?
21. Television has destroyed communication among friends and family. Do you agree with that?
22. To live in a small town or a big city has become a hot topic. Which place would you prefer to live in?
23. People argue whether it is hard work or luck that contributes to success. What is your opinion?
24. Universities should give the same amount of money to their students' sports activities as they give to their university libraries. Do you agree or disagree with the statement?
25. Some people are attracted to dangerous sports or other dangerous activities. Why do you think people like them? What are the advantages and disadvantages?
26. Some people prefer to eat at food stands or restaurants. Other people prefer to prepare and eat food at home. Which do you prefer? Explain it with your own experience.
27. Some people believe that university students should be required to attend classes. Others believe that going to classes should be optional for students. Which point of view do you agree with?
28. Neighbors are the people who live near us. A good neighbor should have some specific qualities. What is your advice? List some types.
29. Environment is important. It is better for children to grow up in the countryside than in a big city. To what extent do you agree with this statement?
30. In general, people are living longer now. What are the cause and problems it may bring?



31. People should sometimes do things that they do not enjoy doing, such as learning a new language. Do you agree or disagree with the statement?
32. Television, newspapers, magazines, and other media pay too much attention to the personal lives of famous people such as public figures and celebrities. What is your opinion?
33. Among computer, aerospace, and manufacturing industries, which one has a more promising future? Please provide your reasons.
34. Businesses should hire employees for their entire lives. What is the disadvantage? What is your solutions?
35. Learning about the past has no value for those of us living in the present. Do you agree or disagree?
36. With the help of technology, students nowadays can learn more information and learn it more quickly. Do you agree or disagree with the statement?
37. Some famous entertainers earn millions of dollars every year. Few people think they deserve such high salaries. What is your opinion?
38. In our technological world, the number of new inventions has been increasing. Please describe a new invention, and determine whether it will bring advantages or disadvantages.
39. Nowadays, more and more people engage in dangerous activities, such as skydiving, skiing and motorcycling. Are you in favor of such activities or not? Use examples to support your opinion.
40. Some employers involve employees in the decision-making process of products and services. What are the advantages and disadvantages of such policy?
41. The formal written examination can be a valid method to assess students learning. To what extent do you agree or disagree?





42. There is no value to travel overseas for study, as you can be a good scholar even without leaving your home base. It is or isn't necessary to travel overseas for a better education?
43. Is travel an important component for a successful scholar? Some people think scholars should read books and never need to leave their home. To which extent do you agree? Explain why.
44. The disadvantages of tourism in less developed countries are as great as the advantages. What is your opinion?
45. In your opinion, what are the advantages and disadvantages of extreme or adventure sports?
46. The information revolution by modern mass communication has both positive and negative consequences for individuals and for society. To what extent do you agree? Explain with your own experience.
47. Mass media, including TV and newspaper, have a great influence on humans, particularly on the younger generation. It has a pivotal role in shaping people's opinions. Discuss the extent you agree or disagree. Use your own experience or examples.
48. Climate change is a concerning global issue. Who should take the responsibilities, governments, big companies, or individuals?
49. What is the role of writing theater plays and discussing ancient writings in the study of high school students?
50. Some people feel that success lies in achieving professional and economic targets, while others say that success lies in spending quality time with family and friends. What is your opinion?
51. In the past years, there have been many inventions, such as antibiotics, airplanes, and computers. What do you think is the most important of them? Why?





52. Should marketing in companies produce consumer goods like food and clothing, place emphasis on reputation of the company or short-term strategies like discount and special offers? Why?
53. Art and culture can improve life quality. Should the government or charity/private investment be responsible for the funding of art and culture? Give your opinion.
54. Some people point that experiential learning (i.e., learning by doing it) can work well in formal education. However, others think a traditional form of teaching is the best. Do you think experiential learning can work well in high schools or colleges?
55. Parents should be held legally responsible for their children's acts. What is your opinion? Support it with personal examples.
56. Nowadays, it is increasingly more difficult to maintain the right balance between work and other aspects of one's life, such as leisure time with family members. How important do you think is this balance? Why do people find it hard to achieve?
57. Nowadays television has become an essential part of life. It is a medium for disseminating news and information, and for some it acts as a companion. What is your opinion about this?
58. Should there be a wage cap for highly-paid people? Is it good or bad?
59. It is harder for children living in the 21st century than that in the past. How far do you agree with this statement? Give your opinions.
60. Information revolution brought about by modern mass media has both positive and negative consequences to individuals and society. To what extent do you agree with this statement? Discuss and use your own experience.



61. Nowadays, many young people are imitating celebrities in sports and movies. What do you think about this?
62. More and more women are raising a family with a career. Please give your suggestions on a personal level and national level.
63. Unemployment among young people is a serious problem. Some people suggest shorter working weeks instead of laying off employees. What do you think are the advantages and disadvantages? Is it also applicable to adults?
64. Should schools have strict rules on wearing uniforms?
65. Should celebrities give up the right to privacy?
66. In the future, people will work fewer hours at their jobs. To what extent do you agree with it? Please support your opinion with your own experience.
67. Games are as important for adults as they are for children. Do you think adults need games? Use specific reasons and examples to support your answer.
68. People dispute travel is or is not a component of a quality education. Some believe travel is overrated. What is your opinion?
69. Some people believe that there has been no major development in humanity with the rising number of child abuse cases. Is it a lack of education?
70. At present, some old people prefer to live in nursing homes instead of living with their adult children. What do you think are the reasons?
71. Should schools make learning a foreign language compulsory?
72. Nowadays, more and more people believed that overburden can help complete higher quality in achievements. For example, professional teachers, coaches believe that this applies to students and athletes, on the individual and national level. What is your point of view? Give examples to support it.
73. Advanced technology such as artificial intelligence can translate a foreign language easily. Do you think learning a foreign language is still necessary? Support with your own experience.



74. Television has many functions to play in everyone's life. For some it's relaxation; for some, it is the companion. To what extent do you think the statement is true? Please provide your argument and supporting evidence from your own experience.
75. Living in the countryside or having a city life, which one do you prefer? Please use examples or your personal experience to support your opinion.
76. Do you agree that taking part in sports is important for an adult's health and happiness? Discuss.
77. Do you think students who had gone to universities and paid full fees should earn higher salaries when compared to those who did not go to university at all?
78. People attend college or university for many different reasons (for example, new experiences, career preparation, or to increase knowledge). Which according to you is the foremost factor? Discuss this by giving specific reasons & examples.
79. Some languages are become more popular in some countries, while the use of others is rapidly declining. Do you think this is a positive development or a negative one?
80. To what extent do you agree with the statement that schools should prepare students for university rather than for work.
81. Tourism is good for some less developed countries, but also has some disadvantages. Discuss.
82. With the increase of digital information available online, the role of the library has become obsolete. Universities should only procure digital materials rather than constantly textbooks. Discuss both the advantages and disadvantages of this position and give your own point of view.



83. Global problems are related to governments and international organizations. What are the problems and what is your opinion?
84. Experience is the best teacher. Some people believe it is more effective than formal school study and books, what do you think?
85. Effective study requires time, comfort and peace. Study and employment distract one from another. So, it is impossible to combine study and employment. To what extent do you think the statements are realistic? Support your opinion with examples.
86. There are many global problems. What is the most pressing problem? What solutions would you suggest?
87. Imagine you have been assigned on the study of the climate change. Which area of climate change will you choose and why? Use examples.
88. Some people think the purpose of education is to prepare for the future workforce and make good members of society. Others think the purpose of education should lead to self-fulfillment. What is your opinion?
89. Should the government or charity/private investment be responsible for the funding of art and culture? Give your opinion.
90. What can make learning a new foreign language unimportant? Give your example and explanation.
91. As cities expand, some people claim governments should try to create better networks of public transportation available for everyone rather than building more roads for vehicle owning population. What's your opinion? Give some examples or experience to support your opinion.
92. Governments promise continuous economic growth, but it's actually an illusion. Some people think that governments should abandon this. Please talk about the validity and the implications.





93. University experience is more important than a university's degree. Some people argue that university life is much more important than an educational degree in job market. Do you agree or not agree?
94. Mass media, such as TV, radio and newspapers, has an influence on people, particularly on younger generations. It plays a pivotal role on shaping the opinions of people, especially teenagers and young people. Do you agree with this? Please give examples.
95. Animal rights have been a subject of debate since the 1970s. Are zoos helping or hurting animals?
96. Some people argue that experience is the best teacher. Life experiences can teach more effectively than books or formal school education. How far do you agree with this idea? Support your opinion with reasons and/or your personal experience.
97. Nowadays television has become an essential part of life. It is a medium for disseminating news and information, and for some, it acts like a companion. What is your opinion about this?
98. With the increase of digital media available online, the role of the library has become obsolete. Universities should only procure digital materials rather than constantly textbooks. Discuss both the advantages and disadvantages of this position and give your own point of view.
99. Some people argue that young people should concentrate on study or work, some people think it is better to put energy in activities designed to broaden their experience, such as international travel and volunteering. Support with examples or cases.
100. As cities expanding, some people claim governments should look forward to creating better networks of public transportation available for everyone



rather than building more roads for vehicle owning population. What's your opinion? Give some examples or experience to support.

101. Poor lifestyles have a negative impact on people's health. List some unhealthy lifestyles and discuss what government services could help?
102. Exercise is essential for health, and exercise in the workplace makes employees less absent from work. All employers should provide exercise facilities in the workplace. What is your opinion?
103. Some people say the elderly are unsuitable to take part in some activities. Please give an example of the activities, and give the maximum age for it.
104. Pay-for-performance is a trend for teachers. Some people agree that it is an incentive for teachers to link students' achievements to teachers' salaries, while others disagree. What is your opinion about paying teachers of student achievement?
105. As dealing with money is such an important skill, all children should be taught financial management at school. Do you agree with it or not?
106. Some people claim that competition improves the quality of our private and professional lives. Others believe that hyper competition is bad for society in general. What is your opinion?
107. Scientists have been debating the impact of nature and nurture on people's personality and behavior. Nature brings you inborn skills and nurture helps you obtain skills by practices. Which one do you think has a greater influence?
108. As the urban population grows, traffic is heavy and public areas such as parking lots are packed. What solutions do you think can address such problems?
109. Do you think textbooks should be replaced by online resources and technological innovations?







110. Nowadays, it is increasingly more difficult to maintain the right balance between work and other aspects of one's life, such as leisure time with family members. How important do you think this balance is? What are the reasons that make some people think that it is hard to achieve?
111. In many towns and cities, large shopping malls are replacing small local shops. What is your opinion on this? Do you think this is a positive development? Use your own experiences.
112. Many education systems assess students using formal written examinations. Those kinds of exams are a valid method. To what extent do you agree or disagree? Give examples with your own experience.
113. It is often argued that studying overseas is overrated. There are many scholars who study locally. To what extent do you agree with this?
114. Some people think human behavior can be limited by laws, while others think laws have little effect. What is your opinion?
115. There are both advantages and disadvantages of company workers assessing their own products and services. Discuss.
116. People dispute whether travel is or is not a component of a quality education. Some believe travel is overrated. What is your opinion?
117. Despite all the advancement made by mankind, some people still argue that gender equality is a myth. What is your opinion?
118. Mass media, including TV, radio and newspapers, plays a pivotal role in shaping our opinions and characters. Do you agree or disagree with it? Support your answer with reasons, examples and experiences.
119. Do you think the design of buildings affects positively or negatively where people live and work?
120. The advanced medical technology will extend human's life. Do you think it is a blessing or a curse?





121. Some universities deduct students' marks if students' work is late. What is your opinion and suggest some alternative actions?
122. Should marketing for consumer goods companies like clothing and food emphasize reputation or short-term strategies like discounts and special offers?
123. Employers should get their employees involved in the decision-making process. What are the pros and cons of such a policy about products and services?
124. Nowadays, people spend too much time at work to the extent that they hardly have time for their personal life. How widespread do you think it is? Discuss the problems caused by the shortage of time.
125. Mass media has an influence on people, particularly on younger generations. It plays a pivot role on shaping the opinions of people, especially teenagers and young people. What do you think about it? Please give examples.
126. Large shopping malls are replacing small local shops. What is your opinion on this? Do you think this is a good or bad development? Use your own experiences.
127. It is argued that getting married before finishing your study or getting established in a good job is foolish. To what extent do you agree or disagree?
128. Television serves many useful functions. It helps people to relax. Besides, it can also be seen as a companion for lonely people. To what extent do you agree with this? Explain it with your own experience.
129. What are the advantages of cheaper public transportation?
130. Governments should not put too much attention on arts, such as theaters. Instead, they should allocate more funds to areas of concern, such as the technology research. Do you agree with this opinion or not? Use your own experience to support your idea.



131. There are more negative impacts than benefits of people using mobile devices. Do you agree?
132. For less developed countries, the disadvantages of tourism are as great as the advantages. What is your opinion?
133. "In the future, people will work less hours at their jobs." To what extent do you agree with it? Please support your opinion with your own experience.
134. People who are famous entertainers or sportspeople should give up the right to privacy, because this is the price of fame. To what extent do you agree/disagree with this point of view? Give your opinion with your experiences.
135. Should schools make it compulsory to learn a foreign language?
136. More and more countries spend large amount of money on the restoration of buildings instead of on modern housing. To what extent do you agree or disagree with this analysis? Support your writing with your experience or examples.
137. Should there be a maximum wage for highly-paid people? Is it good or bad?
138. What are the advantages and the disadvantages of being over-competitive to individuals and society?
139. Some believe the value of travel is overrated. Some talented people know things across the world without travel. People argue whether travel is or not a necessary part of education. To what extent do you agree with it?
140. Some people say the older are unsuitable to take part in some activities. Please give an example of the activities, and give the maximum age for it.
141. There is a current trend of paying teachers for students' achievements. Some people agree that it is an incentive for teachers to link students' achievements to teachers' salaries, while others disagree. What is your opinion?





142. As money is important, all children should be taught financial management at school. Do you agree with it or not?
143. The formal written examination can be a valid method to assess students' learning. To what extent do you agree or disagree?
144. Do you think extreme sports like skiing, water rafting, etc. are dangerous and should be prohibited /banned? Are you in favor of these activities, why?
145. Effective learning requires time, comfort and peace so it is impossible to combine study and employment. Study and employment distract one from another. To what extent do you think the statements are realistic? Support your opinion with examples.
146. Space travel is fantastic these days, but there are many issues, such as environmental problems, that we should be focusing on. What are your views on the allocation of public funding?
147. Mass media, including TV and newspaper, have a great influence on humans, particularly on the younger generation. It can shape people's opinions. What is your opinion?
148. Nowadays, the mass media including TV, radio, and newspaper have become an essential part of our lives. What is your opinion?
149. "The information revolution by modern mass media has both positive and negative consequences for individuals and for society." To what extent do you agree?
150. Some universities deduct students' marks if the assignment is given late. What is your opinion and suggest some alternative actions?
151. Should parents be held legally responsible for the actions of their children? Do you agree with this opinion? Support your position with your own study, experience or observations.



152. Employers involve employees in the decision-making process of products and services. What are the advantages and disadvantages?
153. Do you think experiential learning is beneficial in high schools or colleges?
154. Lifestyle influence people's health. Talk about what political services could help.
155. Some people argue that science is more important than arts. What is your opinion?
156. Some universities deduct students' work if assignment is given late. What is your opinion and suggest some alternative actions?
157. There are both problems and benefits for high school students study plays and works of theatres written centuries ago. Discuss and use your own experience.
158. Students can obtain information of academic subject from online, the printed books and articles, and discussion with their teachers and their peers. Which one is the most reliable source?
159. The medical technology is responsible for increasing the average life expectancy. Do you think it is a curse or a blessing?



**READING**







## RE-ORDER PARAGRAPHS

1.

Correct Order:

- A) Researchers need to understand why different forms of locomotion evolved.
- B) Long-held assumptions, such as the need for energy efficiency, have already been overturned.
- C) For example, a mechanical ankle brace can improve the metabolic efficiency of human walking, implying that walking is inefficient.
- D) But variation of movement is important, too: such an ankle brace holds you back if you try to skip, gallop or skitter.
- E) Similarly, legged robots struggle to deploy different gaits, just as roboticists struggle to enumerate them.

2.

Correct Order:

- A) Formal medical education in Manchester began in 1814 when Joseph Jordan opened the first anatomy school in the English provinces.
- B) Previous lecture courses in medicine had included a series given by Peter Mark Roget, then a physician at Manchester Infirmary (1804-1808), but better known for his later Thesaurus.
- C) Jordan, however, offered dissections as well as lectures, and medical education proved good business.
- D) In London, the private anatomy schools, which had competed with each other for decades, became incorporated with the hospitals, but in the



provinces, private medical schools continued beyond 1870, using the hospitals for clinical teaching but not formally attached to them.

3.

Correct Order:

- A) Students probably don't know how to achieve high marks in exams.
- B) Actually, you don't have to write down everything you know.
- C) Before writing, you should figure out what the question is after, and what is not relevant.
- D) And then you will have an idea of what you should write: write as many points as the number in the question indicates.
- E) If there is a 'three', you should arrange your response as three points.

4.

Correct Order:

- A) Due to its ability to solve all main problems associated with digital goods, Digital Rights Management is the favorite option used by companies to tackle piracy.
- B) The aim of this article is to discuss the consequences of DRM for consumers, firms and society.
- C) The rationales of DRM are discussed and the expected benefits for firms are presented.
- D) In contrast, consumers are shown to be likely to see few benefits in DRM.
- E) The article concludes with some public policy recommendations.

5.

Correct Order:

- A) Around 1 billion people depend on water resources originating from the Hindu-Kush Karakoram Himalayan region, attributable to both rainfall and melting of snow and ice.



- B) The wind in the valleys in the region plays an important role in transporting clouds and moisture and redistributing snow in the valleys, and so understanding what drives this wind is crucial.
- C) Around the world, wind in valleys generally travels up the valley, and up the sides of mountains, during the day.
- D) This is often driven by differences in pressure caused by the slopes of the mountains and the shape of the valleys.

6.

Correct Order:

- A) Poincare had an especially interesting view of scientific induction.
- B) Laws, he said, are not direct generalizations of experience; they aren't mere summaries of the points on the graph.
- C) Rather, the scientist declares the law to be some interpolated curve that is more or less smooth and so will miss some of those points.
- D) Thus a scientific theory is not directly falsifiable by the data of experience; instead, the falsification process is more indirect.

7.

Correct Order:

- A) Scientists have known for over a decade that the West Antarctic Ice Sheet has been losing mass and contributing to sea level rise.
- B) Its eastern neighbor is, however, ten times larger and has the potential to raise the global sea level by some 50 meters.
- C) Despite its huge size and importance, conflicting results have been published on the recent behavior of the East Antarctic Ice Sheet.



D) A study led by a group of NASA scientists, that was published in 2015, suggested that this part of Antarctica was gaining so much mass that it compensated for the losses in the west.

8.

Correct Order:

- A) Drug resistance is the leading cause of death in women with estrogen-receptor-positive breast cancer, the most common form of the disease.
- B) Now, researchers have identified an ordinary dietary element that may increase the chances of a breast cancer becoming drug-resistant.
- C) The connection of the amino acid leucine to drug resistance raises hopes that a relatively simple intervention, like a shift to a low-leucine diet, can reduce the incidence of drug resistance, which is responsible for a large portion of the roughly 40,000 breast cancer deaths every year.
- D) The work also raises the possibility that a drug could be developed to mirror the effects of that dietary restriction, by blocking cells' ability to take in leucine from the surrounding environment.

9.

Correct Order:

- A) Some students say that they need complete quiet to read and study.
- B) Others study best in crowded, noisy rooms because the noise actually helps them concentrate.
- C) The point is, you should know the level of noise that is optimal for your own studying.
- D) However, one general rule for all students is that the television seems to be more of a distraction than music or other background noise, so leave



the TV off when you are reading or studying. Also, don't let yourself distracted by computer games, email, or internet surfing.

10.

Correct Order:

- A) Vision and echolocation have many features in common.
- B) One narrow range of radiation – light in the case of vision, ultrasounds in the case of echolocation – provides information relevant to a wide variety of cognitive and practical goals.
- C) Why, then, is vision so common and echolocation so rare?
- D) Because, in most environments, vision is much more effective.
- E) Echolocation is adaptive only in an ecological niche where vision is impossible or badly impaired—for instance, when dwelling in caves and hunting at night, as bats do.

11.

Correct Order:

- A) The people and events of the past can only be understood when viewed within the larger context in which they existed.
- B) That is not possible when historical events or topics are isolated and extracted from the web of historic time to serve some other curricular purpose.
- C) The value of history also depends upon the chronological presentation of events through time.
- D) It is only through a chronological survey that students can begin to understand the process of social and cultural change, which is one of the principal purposes of history.

12.

Correct Order:



- A) Photogrammetry involves taking hundreds of photos of an object at slightly different angles and 'stitching' them together to create an interactive digital 3D model.
- B) The process is already being used by the University of Aberdeen's anatomy department to create digital models of organs and other body parts to aid teaching and learning for young doctors.
- C) Now the same technology is being used to create virtual replicas of artifacts within the University's museum's collections, including an ancient Egyptian mummified cat, prehistoric skulls and ancient Greek pottery.
- D) These artifacts are rarely handled as they are so fragile.
- E) Photogrammetry lets the public and students get to see them close-up and in very high detail.

13.

Correct Order:

- A) To celebrate his first publication, Frost had a book of six poems privately printed; two copies of Twilight were made—one for himself and one for his fiancée.
- B) Over the next eight years, however, he succeeded in having only 13 more poems published.
- C) During this time, Frost sporadically attended Dartmouth and Harvard and earned a living teaching school and, later, working a farm in Derry, New Hampshire.
- D) But in 1912, discouraged by American magazines' constant rejection of his work, he took his family to England, where he found more professional success.





14.

Correct Order:

- A) Historians are now agreed that beginning in the 17th century and continuing throughout the 18th century, England witnessed an agricultural revolution.
- B) English (and Dutch) farmers were the most productive farmers of the century and were continually adopting new methods of farming and experimenting with new types of vegetables and grains.
- C) They also learned a great deal about manure and other fertilizers.
- D) In other words, many English farmers were treating farming as a science, and all this interest eventually resulted in greater yields.

15.

Correct Order:

- A) In a wonderful set of studies and subsequent book, Elly A. Konijn looked to the question of how much actors are aware of their performance as they perform it, and how much they let the character 'take over'.
- B) She asked Dutch actors to rate their own emotions and the emotions of the characters they were playing across a range of affective states (from disgust and anxiety to tenderness and pleasure).
- C) She found that positive emotions were often felt by the actors as they played those character's emotions.
- D) However, the more negative the emotion of the character, the less likely the actor would report feeling that emotion onstage.

16.

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- D) However, the more negative the emotion of the character, the less likely the actor would report feeling that emotion onstage.

17.

Correct Order:

- A) According to the research, more car accidents occur in the morning.
- B) Particularly, most of those accidents happen between 1 am and 5 am, for example in Port Macquarie.
- C) Especially, this happens very often among teenage drivers.
- D) This should draw the public attention, and people should put more concerns on teenagers.
- E) As a new method, it is advised to have more qualifications for teenagers to get licenses.

18.

Correct Order:

- A) Playwrights come to their craft with different aesthetic sensibilities.
- B) They create recognizable worlds with troubling relevance to human behavior and social themes.
- C) Others dismiss the "illusion of the real" to engage us in political arguments or absurdist metaphors.



- D) Thornton Wilder and Tennessee Williams, on the one hand, and Bertolt Brecht and Samuel Beckett, on the other, are playwrights with very different approaches to empathy and aesthetic distance.
- E) However, these writers have in common their means of artistic expression – the play.

19.

Correct Order:

- A) Although there is always some risk that a large impact could occur, careful study shows that this risk is quite small.
- B) The group conducting the study concluded from a detailed analysis that impacts from meteorites can indeed be hazardous.
- C) Earth is a target in a cosmic shooting gallery, subject to decades ago.
- D) In 1991 the United States Congress asked NASA to investigate the hazard posed today by large impacts on Earth.

20.

Correct Order:

- A) But beginning in the 1990s, foreign aid had begun to slowly improve.
- B) Scrutiny by the news media shamed many developed countries into curbing their bad practices.
- C) Today, the projects of organizations like the World Bank are meticulously inspected by watchdog groups.
- D) Although the system is far from perfect, it is certainly more transparent than it was when foreign aid routinely helped ruthless dictators stay in power.

21.

Correct Order:



- A) Jet stream, narrow, swift currents or tubes of air found at heights ranging from 7 to 8 mi (11.3–12.9 km) above the surface of the earth.
- B) They are caused by great temperature differences between adjacent air masses. There are four major jet streams.
- C) Instead of moving along a straight line, the jet stream flows in a wavelike fashion; the waves propagate eastward (in the Northern Hemisphere) at speeds considerably slower than the wind speed itself.
- D) Since the progress of an airplane is aided or impeded depending on whether tail winds or head winds are encountered.
- E) In the Northern Hemisphere the jet stream is sought by eastbound aircraft, in order to gain speed and save fuel, and avoided by westbound aircraft.

22.

Correct Order:

- A) All over the world students are changing countries for their university studies.
- B) They don't all have the same reasons for going or for choosing a particular place to study.
- C) They may choose a university because of its interesting courses or perhaps because they like the country and its language.
- D) Some students go overseas because they love travel.
- E) Whatever the reason, thousands of students each year make their dreams of a university education come true.

23.

Correct Order:

- A) I think we should be wary of the reporting of science - it is often over-dramatized in order to secure an audience - but not of science itself.



- B) Of course, there may be the extremely rare example of scientific dishonesty, which will be seized upon by the news organizations, but the role of science within modern society remains valuable.
- C) Mobile phones, for example, can cause incidents if drivers insist on talking on the phone instead of looking at roads.
- D) But no one would deny that mobile phones can help us to make a phone call when we are under a crisis.
- E) In other words, I firmly believe that the development of science and the extension of understanding is a public good.

24.

Correct Order:

- A) Over the years many human endeavors have had the benefit of language.
- B) In particular a written language can convey a lot of information about past events, places, people and things.
- C) But it is difficult to describe music in words, and even more difficult to specify a tune.
- D) It was the development of a standard musical notation in the 11th century that allowed music to be documented in a physical form.
- E) Now music could be communicated efficiently and succeeding generations would know something about the music of their ancestors.

25.

Correct Order:

- A) Your main job in taking lecture notes is to be a good listener.
- B) To be a good listener, you must learn to focus and concentrate on the main points of the lecture.
- C) Get them down, and then later reorganize them in your own words.



D) Once you have done this, you have set the stage for successful reviewing and revising.

26. Correct Order:

- A) Coral reefs support more marine life than any other ocean ecosystem and are, not surprisingly, a favorite pursuit for many divers.
- B) But as well as being physically and biologically spectacular, coral reefs also sustain the livelihoods of over half a billion people.
- C) What is more, this number is expected to double in coming decades while the area of high-quality reef is expected to halve.
- D) In combination with the very real threat of climate change, which could lead to increased seawater temperatures and ocean acidification, we start to arrive at some quite frightening scenarios.

27.

Correct Order:

- A) With the Arctic the fastest warming region on the planet, climate change is already altering key components of the Arctic environment.
- B) Some of the clearest signs of change are the thinning and retreat of sea ice and the migration of species into the Arctic that normally live at lower latitudes.
- C) The response of the Arctic to climate change will have an unprecedented impact on how the Arctic eco system operates.
- D) This is likely to affect the UK's climate and economy, with anticipated impacts on industries like tourism and fisheries.

28.

Correct Order:

- A) A reaction that needs some type of energy to make it go is said to be endothermic. It takes in energy.





- B) For example, the sherbet you used for the chapter problem on page 25 is a mixture of baking soda and citric acid.
- C) When it is mixed with water in your mouth an endothermic reaction occurs, taking heat energy from your mouth and making it feel cooler.
- D) Another example of an endothermic reaction is seen with the cold packs used by athletes to treat injuries. These packs usually consist of a plastic bag containing ammonium nitrate dissolves in the water.
- E) This process is endothermic-taking heat energy from the surroundings and cooling the injured part of your body. In this way the cold pack acts like an ice pack.

29.

Correct Order:

- A) The earth is losing its forests. Presently, trees cover about 30 percent of the earth's surface, but they are being destroyed at an alarming rate, especially in the tropics.
- B) Timber harvesting is a major reason for the destruction of the forests.
- C) The timbers are used for building houses, making furniture, and providing pulp for paper products, such as newspapers and magazines.
- D) At least 40 hectares of rainforest are being felled every minute, mostly in order to extract the valuable timber.
- E) Another way that man is destroying the world's forests is by burning them down. In the Amazon, for example, rainforests are being burnt down at a rate of 20 hectares a minute.

30.

Correct Order:



- A) The expanding influence of Copernicanism through the seventeenth century transformed not only the natural philosophic leanings of astronomers but also the store of conceptual material accessible to writers of fiction.
- B) During this period of scientific revolution, a new literary genre arose, namely that of the scientific cosmic voyage
- C) Scientists and writers alike constructed fantastical tales in which fictional characters journey to the moon, sun, and planets.
- D) In so doing, they discover that these once remote worlds are themselves earth-like in character. Descriptions of these planetary bodies as terrestrial in kind demonstrate the seventeenth century intellectual shift from the Aristotelian to the Copernican framework.

31.

Correct Order:

- A) Education scholars generally agree that mayors can help failing districts, but they are starting to utter warnings.
- B) Last summer the editors of the Harvard educational review warned that mayoral control can reduce parents' influence on schools.
- C) And they pointed to Mr. Bloomberg's aggressive style as an example of what not to do.
- D) All this must be weighed up by the New York state legislature in 2009, when mayoral control is up for renewal-or scrapping.

32.

Correct Order:

- A) Ecological footprint accounting measures the demand on and supply of nature.



- B) On the demand side, the Ecological Footprint measures the ecological assets that a given population requires to produce the natural resources it consumes.
- C) It tracks the use of six categories of productive surface areas: cropland, grazing land, fishing grounds, built-up land, forest area, and carbon demand on land.
- D) On the supply side, a city, state or nation's bio-capacity represents the productivity of its ecological assets.
- E) Both the Ecological Footprint and bio-capacity are expressed in global hectares—globally comparable, standardized hectares with world average productivity.

33.

Correct Order:

- A) Latest research has found that several common flower species have nanoscale ridges on the surface of their petals that meddle with light when viewed from certain angles.
- B) These nanostructures scatter light particles in the blue to ultraviolet colour spectrum, generating a subtle effect that scientists have christened the 'blue halo'.
- C) By manufacturing artificial surfaces that replicated 'blue halos', scientists were able to test the effect on pollinators, in this case foraging bumblebees.
- D) They found that bees can see the blue halo, and use it as a signal to locate flowers more efficiently.

34.

Correct Order:



- A) The Newness railroad was closed in 1932 after 25 years of shipping oil shale.
- B) The rails were pulled out of the 600-meter tunnel, which had been bored through the sandstone in the Wollemi National Park, and the tunnel was left to its own devices.
- C) For Newness, that meant becoming home to thousands and thousands of glow worms.
- D) The glow worm is a catch-all name for the bioluminescent larvae of various species, in this case, the *Arachnocampa richardsae*, a type of fungus gnat. Found in massive numbers in caves, the fungus gnat larvae cling to the rocky walls of the abandoned tunnel and hunt with long, glowing strings of sticky mucus.

35.

Correct Order:

- A) In language learning there is a distinction between competence and performance. Competence is a state of the speaker's mind. What he or she knows?
- B) Separate from actual performance – what he or she does while producing or comprehending language. In other words, competence is put to use through performance.
- C) An analogy can be made to the Highway Code for driving. Drivers know the code and have indeed be untested on it to obtain a driving license.
- D) In actual driving, however, the driver has to relate the code to a continuous flow of changing circumstances and may even break it from time to time.
- E) Knowing the Highway Code is not the same as driving.



36.

Correct Order:

- A) All animals have a strong exploratory urge, but for some it is more crucial than others.
- B) It depends on how specialized they have become during the course of evolution.
- C) If they have put all their effort into the perfection of one survival trick, they do not bother so much with the general complexities of the world around them.
- D) So long as the ant eater has its ants and the koala bear is gum leaves, then they are satisfied, and the living is easy.
- E) The non-specialists, however, the opportunists of the animal world, can never afford to relax.

37.

Correct Order:

- A) Some psychologists believe that independent, peer-reviewed research in the decades since the MBTI was devised has provided something better than Myers-Briggs.
- B) They champion the notion of the "Big Five" personality traits – openness, conscientiousness, extroversion, agreeableness and neuroticism.
- C) Of these, only one trait is closely shared with the MBTI – extroversion.
- D) Myers-Briggs does not focus on "neuroticism" or, indeed, any similarly negative trait, which may point to one of the reasons why the criticisms lobbed at the test by modern science have yet to undermine its popularity.



- E) As Adam Grant says, 'Going around telling people that they're neurotic and disagreeable will not win you any friends.'

38.

Correct Order:

- A) SEPAHUA, a ramshackle town on the edge of Peru's Amazon jungle, nestles in a pocket on the map where a river of the same name flows into the Urubamba.
- B) That pocket denotes a tiny patch of legally loggable land sandwiched between four natural reserves, all rich in mahogany and accessible from the town. "Boundaries are on maps," says a local logger, "maps are only in Lima," the capital.
- C) In 2001 the government, egged on by WWF, a green group, tried to regulate logging in the relatively small part of the Peruvian Amazon where this is allowed.
- D) It abolished the previous system of annual contracts.
- E) Instead, it auctioned 40-year concessions to areas ruled off on a map, with the right to log 5% of the area each year. The aim was to encourage strict management plans and sustainable extraction.

39.

Correct Order:

- A) During the 1920s and 1930s great progress was made in the field of aviation, including the first transatlantic flight of Alcock and Brown in 1919, Charles Lindbergh's solo transatlantic flight in 1927, and Charles Kingsford Smith's transpacific flight the following year.
- B) One of the most successful designs of this period was the Douglas DC-3, which became the first airliner to be profitable carrying passengers exclusively, starting the modern era of passenger airline service.





- C) By the beginning of World War II, many towns and cities had built airports, and there were numerous qualified pilots available.
- D) The war brought many innovations to aviation, including the first jet aircraft and the first liquid-fueled rockets.

40.

Correct Order:

- A) The topography of the ocean floors is none too well known, since in great areas the available soundings are hundreds or even thousands of miles apart.
- B) However, the floor of the Atlantic is becoming fairly well known as a result of special surveys since 1920.
- C) A broad, well-defined ridge—the Mid-Atlantic ridge—runs north and south between Africa and the two Americas.
- D) Numerous other major irregularities diversify the Atlantic floor.
- E) Closely spaced soundings show that many parts of the oceanic floors are rugged as mountainous regions of the continents.

41.

Correct Order:

- A) The last time you splurged on a live lobster for dinner, you might not have given any thought to how much the little guy was going to suffer as he boiled to death.
- B) Until recently many researchers believed the crustacean nervous system too primitive to process pain.
- C) Scientists at Queen's University in Belfast now think that crustaceans may be more sensitive to pain than previously thought.



D) And they found that crabs that experienced an electric shock when they hid under a safe, dark rock would eventually learn to avoid the hiding place.

42.

Correct Order:

- A) In addition, one of the five was a roughly Mars-sized planet, half the size of Earth.
- B) A team of scientists has discovered two Earth-like planets in the habitable orbit of a Sun-like star.
- C) Four of the planets are so-called Super-Earths, larger than our own planet, but smaller than even the smallest ice giant planet in our Solar System.
- D) Using observations gathered by NASA's Kepler Mission, the team found five planets orbiting a Sun-like star called Kepler-62.
- E) These new super Earths have radii of 1.3, 1.4, 1.6 and 1.9 times that of Earth.

43.

Correct Order:

- A) The consequence is that refugee acceptance is slowing down.
- B) Australian immigration policy was relatively loose before.
- C) We accept more refugees than we were expected.
- D) At the same time, new refugee policies have been changed secretly.
- E) Because of the election, refugee applications are extended.

44.

Correct Order:

- A) If you want to visit Mars, visit Turkey.



- B) That's where you'll find lakes so salty that the only bugs able to live there are species that could probably survive on Mars as well.
- C) For that reason, microbiologists in Turkey have surveyed the array of species that inhabit the Acigol, Saida and Yareli lakes.
- D) They're hopeful that studying some of them will yield useful insights into the kinds of biology that could help microbes exist on Mars or other potentially habitable planets and moons.

45.

Correct Order:

- A) This site contains a comprehensive listing of the works of Norbert Elias, a German sociologist.
- B) The site lists not only his published books and articles but also manuscripts and oral communications, in a variety of media and including reprints and translations.
- C) The material has been catalogued, cross-referenced and organized by date.
- D) There is, however, no search facility.

46.

Correct Order:

- A) Why Applied Computer Science?
- B) With rapid advances in technology and new applications being developed constantly, it is hard to say what those problems will be.
- C) Our Applied Computer Science major is all about giving you the skills to solve computer related problems.
- D) One thing is for sure, though, it is going to be exciting finding out.

47.

Correct Order:



- A) To do this, the manager should be able to motivate employees.
- B) However, this is easier said than done.
- C) The job of a manager in a workplace is to get things done through employees.
- D) Motivation is something that everyone needs.

48.

Correct Order:

- A) For example, before writing the thesis, try to understand the requirement of the topic and find out the relevant facts.
- B) Students may not know how to achieve good grades in exams.
- C) Actually, you don't have to write down everything you know.
- D) And then you will have an idea of what you should write.
- E) Before writing, you should figure out what the question is, and what is not relevant

49.

Correct Order:

- A) Later on, someone invented a wagon.
- B) With the industrial development, steel railway was invented which then replaced the wood railway.
- C) The railway can save time and money.
- D) The railway is a good invention, but there was only wood railway in the beginning.

50.

Correct Order:

- A) On the one hand, they differ concerning the degree to which gender equality concepts are embedded in various legislative acts.



- B) Most European countries are concerned about gender inequalities in education.
- C) However, the comprehensiveness of legislative and policy frameworks differs widely.
- D) On the other hand, they can frame gender equality in different ways, focusing on one or more of the various concepts that are associated with this term.

51.

Correct Order:

- A) It is wrong, however, to exaggerate the similarity between language and other cognitive skills, because language stands apart in several ways.
- B) For one thing, the use of language is universal—all normally developing children learn to speak at least one language, and many learn more than one.
- C) By contrast, not everyone becomes proficient at complex mathematical reasoning, few people learn to paint well, and many people cannot carry a tune.
- D) Because everyone is capable of learning to speak and understand language, it may seem to be simple.
- E) But just the opposite is true language is one of the most complex of all human cognitive abilities.

52.

Correct Order:

- A) Amino acid, which is also known as Leucine, is a fundamental element in the muscle's formation



- B) Animals' protein has a x% of the Leucine, which is higher than those in plants' protein.
- C) Plants' protein
- D) However, there are also some exceptions exist.

53.

Correct Order:

- A) Charles Darwin was born on 12 February 1809 into a rich and powerful family.
- B) His paternal grandfather was Erasmus Darwin, a famous scientist who came up with his own theory of evolution, while his maternal grandfather was Josah Wedgwood, of pottery fame.
- C) Despite this, for the first decades of his life Darwin failed to distinguish himself, first dropping out of medical studies in Edinburgh because he hated the sight of blood, and subsequently entering Cambridge to study for the profession of clergyman very much as second option.
- D) Yet Darwin was gaining great skill as an amateur naturalist and it was this that allow him to seize the opportunity presented when he was offered an unpaid position as scientist on board the Beacle, a naval surveying ship bound for the farthest corners of the globe.
- E) The five-year voyage was the making of Darwin, providing him with the wealth of observations of the natural world that established him as one of the foremost scientists of his age and provided the raw material for his revolutionary theory.

54.

Correct Order:





- A) New Ventures is a program that helps entrepreneurs in some of the world's most dynamic, emerging economies-- Brazil, China, Colombia, India, Indonesia and Mexico.
- B) We have facilitated more than \$203 million in investment and worked with 250 innovative businesses whose goods and services produce clear, measurable environmental benefits, such as clean energy, efficient water use, and sustainable agriculture.
- C) Often, they also address the challenges experienced by the world's poor.
- D) For example, one of the companies we work with in China, called Eco-star, refurbishes copy machines from the United States and re-sells or leases them for 20 percent less than a branded photocopier.

55.

Correct Order:

- A) The "Festival in The Desert" is a celebration of the musical heritage of the Touareg, a fiercely independent nomadic people.
- B) It is held annually near Essakane, an oasis some 40 miles north west of Timbuktu, the ancient city on the Niger River.
- C) Reaching it tests endurance, with miles of impermanent sand tracks to negotiate.
- D) The reward of navigating this rough terrain comes in the form of a three-day feast of music and dance.

56.

Correct Order:

- A) This is likely to affect the UK's climate and economy with anticipated impacts on industries like tourism and fisheries.



- B) The response of the Arctic to climate change will have an unprecedented impact on how the Arctic ecosystem operates.
- C) Some of the clearest signs of change are the thinning and retreat of sea ice and the migration of species into the Arctic that normally live at lower latitudes.
- D) With the Arctic, the fastest warming region on the planet, climate change is already altering key component of the Arctic environment.

57.

Correct Order:

- A) Moreover, he had been studying in four different schools.
- B) Moreover his academic performance was not good.
- C) There is one 11-year old boy who had been adopted by five families.
- D) The consequence is that he has problem fitting in the society.
- E) He was sent to his relatives' family for him to be well taken care of.

58.

Correct Order:

- A) A University of Canberra student has launched the nation's first father-led literacy project, to encourage fathers to become more involved in their children's literacy. Julia Bocking's Literacy and Dads (LADS) project aims to increase the number of fathers participating as literacy helpers in K-2 school reading programs at Queanbeyan Primary Schools.
- B) "There's no program like this in Australia," Ms Bocking said, who devised the project as the final component of her community education degree at the University.
- C) Having worked as a literacy tutor with teenagers, Ms Bocking saw the need for good attitudes towards reading to be formed early on - with the help of more male role models.



D) "Teachers depend on parent helpers in the earlier school years, though research shows that nationally only five percent of these helpers are male"; she said, "A male that values reading sets a powerful role mode, particularly for young boys, who are statistically more likely to end up in the remedial literacy program."

59.

Correct Order:

- A) Priority sectors include agriculture, small scale industries, housing, exports, etc
- B) Economics say that a market has failed when the market does not provide efficient outcomes for society
- C) It is not clear how sectors get identified for the priority tag. as there is no clearly articulated logic
- D) The government of India directs substantial bank credit to what it deems are 'priority sectors' for the Indian economy
- E) In my view, a priority sector should be an area of market failure

60.

Correct Order:

- A) The fiscal deficit has deteriorated.
- B) There are big gaps in perception and capability of managers
- C) Government finances are terminally impaired with uncontrolled fiscal deficits
- D) The current pace of reforms is too slow
- E) Thus, we can say a good budget is one which makes a sincere attempt to change the policy environment.
- F) Industry too is not ready to deliver growth, should even the government pursue the right policies.



61.

Correct Order:

- A) Some students say that they need complete quiet to read and study.
- B) Others study best in crowded, noisy rooms because the noise actually helps them concentrate.
- C) The point is, you should know the level of noise that is optimal for your own studying.
- D) However, one general rule for all students is that the television seems to be more of a distraction than music or other background noise, so leave the TV off when you are reading or studying. Also, don't let your self-distracted by computer games, email, or internet surfing.

62.

Correct Order:

- A) In 1875, the geologist Eduard Suess used the term biosphere to describe the location where all living things dwell.
- B) Since this initial formulation, the term has been further developed and is now considered to encompass all the ecosystems of the Earth.
- C) It includes every living organism on the planet as well as their interactions with the earth, water, and air.
- D) The biosphere is thought to have developed about 3.5 billion years ago when the first living organisms began to appear.
- E) Today, some scientists have argued that the biosphere itself is a kind of super organism.
- F) Each of the plants, animals and other organisms serve as just a piece of the whole.

63.

Correct Order:



- A) School has different ways to let parents know how they provide education services.
- B) One of the common ways is open days.
- C) Open days are good chances for parents to ask what they want to know.
- D) These are times when parents can know what works for their children will be doing at school.

64.

Correct Order:

- A) For many years, I had been thinking of writing a book.
- B) Not an ordinary book, but a literature book.
- C) I would do extensive literature reading and think about how I could do as well as they had done.
- D) What I did is what you will need to do.

65.

Correct Order:

- A) The research by Will and colleagues dressed 6-month-old babies in different colored outfits that did not necessarily match their gender, so the participants had no way of knowing if the baby was in fact a boy or a girl.
- B) Sometimes, the infant was dressed in blue and was called Adam and sometimes it was dressed in pink and was called Beth.
- C) There were three toys in the room: a train (boy stereotype), a doll (girl stereotype) and a fish (neutral).
- D) This study found that babies dressed in blue and thought to be boys were more likely to be given the train.



- E) Babies in pink or 'girls' were more likely to be given the doll and more people smiled at 'Beth' than at 'Adam'.

66.

Correct Order:

- A) In a wonderful set of studies and subsequent book, Elly A. Konijn looked to the question of how much actors are aware of their performance as they perform it, and how much they let the character 'take over'.
- B) She asked Dutch actors to rate their own emotions and the emotions of the characters they were playing across a range of affective states (from disgust and anxiety to tenderness and pleasure).
- C) She found that positive emotions were often felt by the actors as they played those character's emotions.
- D) However, the more negative the emotion of the character, the less likely the actor would report feeling that emotion onstage

67.

Correct Order:

- A) So now that you've completed the research project, what do you do?
- B) I know you won't want to hear this, but your work is still far from done.
- C) In fact, this final stage – writing up your research – may be one of the most difficult.
- D) Developing a good, effective and concise report is an art form in itself.
- E) And, in many research projects you will need to write multiple reports that present the results at different levels of detail for different audiences.

68.

Correct Order:





- A) Cameras help autonomous vehicles read street signs and the color of traffic lights.
- B) But LiDARs, aka light detection and ranging systems, do the important work of sensing and helping cars avoid obstacles, whether that's a fallen tree, drunk driver, or a child running out into the road.
- C) Now, a startup called Luminar Technologies Inc., is unveiling a high-resolution LiDAR sensor that was five years in the making.
- D) The startup, which has raised \$36 million in seed-stage funding so far, built its LiDAR systems from scratch.

69.

Correct Order:

- A) Vision and echolocation have many features in common.
- B) One narrow range of radiation – light in the case of vision, ultrasounds in the case of echolocation – provides information relevant to a wide variety of cognitive and practical goals.
- C) Why, then, is vision so common and echolocation so rare?
- D) Because, in most environments, vision is much more effective.
- E) Echolocation is adaptive only in an ecological niche where vision is impossible or badly impaired—for instance, when dwelling in caves and hunting at night, as bats do.

70.

Correct Order:

- A) Drug resistance is the leading cause of death in women with estrogen-receptor-positive breast cancer, the most common form of the disease.
- B) Now, researchers have identified an ordinary dietary element that may increase the chances of a breast cancer becoming drug-resistant.



- C) The connection of the amino acid leucine to drug resistance raises hopes that a relatively simple intervention, like a shift to a low-leucine diet, can reduce the incidence of drug resistance, which is responsible for a large portion of the roughly 40,000 breast cancer deaths every year.
- D) The work also raises the possibility that a drug could be developed to mirror the effects of that dietary restriction, by blocking cells' ability to take in leucine from the surrounding environment.

71.

Correct Order:

- A) A team of scientists has discovered two Earth-like planets in the habitable orbit of a Sun-like star.
- B) Using observations gathered by NASA's Kepler Mission, the team found five planets orbiting a Sun like star called Kepler-62.
- C) Four of these planets are so-called super-Earths, larger than our own planet, but smaller than even the smallest ice giant planet in our Solar System.
- D) These new super-Earths have radii of 1.3, 1.4, 1.6, and 1.9 times that of Earth. In addition, one of the five was a roughly Mars-sized planet, half the size of Earth.

72.

Correct Order:

- A) Innovation in India is as much due to entrepreneurialism as it is to IT skills, says Arun Maria, chairman of Boston Consulting Group in India.
- B) Indian businessmen have used IT to create new business models that enable them to provide services in a more cost-effective way.



- C) This is not something that necessarily requires expensive technical research.
- D) He suggests the country's computer services industry can simply outsource research to foreign universities if the capability is not available locally.
- E) This way, I will have access to the best scientists in the world without having to produce them myself says Mr. Maria.

73.

Correct Order:

- A) But beginning in the 1990s, foreign aid had begun to slowly improve.
- B) Scrutiny by the news media shamed many developed countries into curbing their bad practices.
- C) Today, the projects of organizations like the World Bank are meticulously inspected by watchdog groups.
- D) Although the system is far from perfect, it is certainly more transparent than it was when foreign aid routinely helped ruthless dictators stay in power.

74.

Correct Order:

- A) After World War II, especially in North America, there was a boom in general aviation, both private and commercial, as thousands of pilots were released from military service and many inexpensive war-surplus transport and training aircraft became available.
- B) Manufacturers such as Cessna, Piper, and Beechcraft expanded production to provide light aircraft for the new middle-class market.



- C) By the 1950s, the development of civil jets grew, beginning with the de Havilland Comet, though the first widely used passenger jet was the Boeing 707, because it was much more economical than other aircraft at that time.
- D) At the same time, turboprop propulsion began to appear for smaller commuter planes, making it possible to serve small-volume routes in a much wider range of weather conditions.

75.

Correct Order:

- A) The topography of the ocean floors is none too well known, since in great areas the available soundings are hundreds or even thousands of miles apart.
- B) However, the floor of the Atlantic is becoming fairly well known as a result of special surveys since 1920.
- C) A broad, well-defined ridge the Mid-Atlantic ridge runs north and south between Africa and the two Americas, and numerous other major irregularities diversify the Atlantic floor.
- D) Closely spaced soundings show that many parts of the oceanic floors in the Atlantic are rugged as mountainous regions of the continents.

76.

Correct Order:

- A) Despite posting healthy profits, Volkswagen shares trade at a discount to peers due to bad reputation among investors, high capital expenditure and its close links to the state of Lower Saxony, which effectively has a blocking minority.



- B) A disastrous capital hike, an expensive foray into truck business and uncertainty about the reason for a share buyback has in recent years left investors bewildered.
- C) The main problem with Volkswagen is the past. Many investors have been disappointed and frightened away, said one Paris-based fund managers.
- D) Volkswagen shares trade at about nine times the 2002 estimated, compared to BMWs 19 and are the second cheapest in the sector.

77.

Correct Order:

- A) The town of Liberal is said to have been named for an early settler famous among travelers for being free with drinking water.
- B) Liberal is conservative in a moderate Midwestern kind of way which is changing fast due to big National Beef Packing plant which relies on Hispanic migrants and thus four-fifths of the children in Liberals public-school system is Hispanic.
- C) This should make the town receptive to Democrats, but Mr. Trump easily won the county of which it forms part.
- D) Liberals' mayor, Joe Denoyer, who was raised in a Democratic family near Chicago and moved to Liberal in search of work.
- E) Mr. Denoyer voted for Mr. Trump by being impressed by his promise, though he thinks it unlikely that the president will keep his promises.

78.

Correct Order:



- A) Another common mistake is to ignore or rule out data which do not support the hypothesis.
- B) Ideally, the experimenter is open to the possibility that the hypothesis is correct or incorrect.
- C) Sometimes, however, a scientist may have a strong belief that the hypothesis is true (or false) or feels internal or external pressure to get a specific result.
- D) In that case, there may be a psychological tendency to find something wrong, such as systematic effects, with data which do not support the scientist's expectations, while data which do agree with those expectations may not be checked as carefully.

79.

Correct Order:

- A) My study of the history of religion has revealed that human beings are spiritual animals. Indeed, there is a case for arguing that Homo sapiens is also Homo religious.
- B) Men and women started to worship gods as soon as they became recognizably human; they created religions at the same time as they created works of art.
- C) This was not simply because they wanted to propitiate powerful forces.
- D) These early faiths expressed the wonder and mystery that seems always to have been an essential component of the human experience of this beautiful world.

80.





Correct Order:

- A) Vegetarians do not eat meat or fish in their diet.
- B) This diet is not only unattractive, but also may cause nutritional imbalance if not managed well.
- C) Restaurants and school cafeteria adjust and amend their menus to adapt to this special diet.
- D) Menus in all of these places have become more balance in nutrients, and also attract those who are not vegetarians.
- E) These developments/improvements won't succeed without the effort of vegetarians.

81.

Correct Order:

- A) There are more than 100 schools in the country.
- B) Never, if you can avoid it, accept the offer before going to the place and having a look. You should go and see once you have a chance.
- C) This is important that you see the facilities and accommodations around the school.
- D) Because you might be living off campus in the second year.

82.

Correct Order:

- A) There is many color such as red and blue in the color system behind the camera.
- B) Use the system to receive colors to generate a black and white image.



- C) And then there comes the color TV/And that's how color TV was invented.
- D) (Further development of color TV)

83.

Correct Order:

- A) Although experts like journalists are expected to be unbiased, they inevitably share the system biases of the disciplines and cultures in which they work.
- B) Journalists try to be fair and objective by presenting all sides of a particular issues.
- C) Practically speaking, however, it is about as easy to present all sides of an issue as it is to invite all candidates from all political parties to a presidential debate.
- D) Some perspectives ultimately are not included.

84.

Correct Order:

- A) In language learning there is a distinction between competence and performance. Competence is a state of the speaker's mind. What he or she knows?
- B) Separate from actual performance what he or she does while producing or comprehending language. In other words, competence is put to use through performance.
- C) An analogy can be made to the Highway Code for driving. Drivers know the code and have indeed been tested on it to obtain a driving license.



- D) In actual driving, however, the driver has to relate the code to a continuous flow of changing circumstances and may even break it from time to time.
- E) Knowing the Highway Code is not the same as driving.

85.

Correct Order:

- A) All animals have a strong exploratory urge, but for some it is more crucial than others.
- B) It depends on how specialized they have become during the course of evolution.
- C) If they have put all their effort into the perfection of one survival trick, they do not bother so much with the general complexities of the world around them.
- D) So long as the ant eater has its ants and the koala bear has gum leaves, then they are satisfied, and the living is easy.
- E) The non-specialists, however, the opportunists of the animal world, can never afford to relax.

86.

Correct Order:

- A) It is wrong, however, to exaggerate the similarity between language and other cognitive skills, because language stands apart in several ways.
- B) For one thing, the use of language is universal all normally developing children learn to speak at least one language, and many learn more than one.
- C) By contrast, not everyone becomes proficient at complex



mathematical reasoning, few people learn to paint well, and many people cannot carry a tune.

D) Because everyone is capable of learning to speak and understand language, it may seem to be simple.

E) But just the opposite is true language is one of the most complex of all human cognitive abilities.

87.

Correct Order:

- A) Recent research has revealed that more than 60,000 species of trees are available globally.
- B) The BCGI (Botanical Gardens Conservation International), a charity that compiled the list of trees on the basis of data gathered from its network of 500 members organizations.
- C) The researchers claim to have collected information over a period of two years from sources including over 500 published contents and 80 experts in the BCGI's network.
- D) The data will be kept updated with the discovery of new species or the extinction of some, said the researchers.
- E) All the data required for the world's trees is now available in one database, thanks to Global Tree Search.

88.

Correct Order:

- A) Researchers in the field of artificial intelligence have long been intrigued by games, and not just as a way of avoiding work.
- B) Games provide an ideal setting to explore important elements of the design of cleverer machines, such as pattern recognition, learning and planning.



- C) They also hold out the tantalizing possibility of fame and fortune should the program ever clobber a human champion.
- D) Ever since the stunning victory of Deep Blue, a program running on an IBM supercomputer, over Gary Kasparov, the world chess champion, in 1997, it has been clear that computers would dominate that particular game.
- E) Today, though, they are pressing the attack on every front.

89.

Correct Order:

- A) Mechanical engineering student Ne Tan is spending the first semester of this year studying at the University of California, Berkeley as part of the Monash Abroad program.
- B) Ne (Tan), an international student from Shanghai, China, began her Monash journey at Monash College in October 2006.
- C) There she completed a diploma that enabled her to enter Monash University as a second-year student.
- D) Now in her third year of study, the Monash Abroad program will see her complete four units of study in the US before returning to Australia in May 2009.

90.

Correct Order:

- A) Many students sit in a tutorial week after week without saying anything.
- B) Why is that?
- C) Maybe they do not know the purpose of a tutorial.
- D) They think it is like a small lecture where the tutor gives them information.
- E) Even if students do know what a tutorial is for, there can be other reasons why they keep quiet.



91.

Correct Order:

- A) Jet stream, narrow, swift currents or tubes of air found at heights ranging from 7 to 8 mi (11.3–12.9 km) above the surface of the earth.
- B) They are caused by great temperature differences between adjacent air masses.
- C) Instead of moving along a straight line, the jet stream flows in a wavelike fashion; the waves propagate eastward (in the Northern Hemisphere) at speeds considerably slower than the wind speed itself.
- D) Since the progress of an airplane is aided or impeded depending on whether tail winds or head winds are encountered.
- E) In the Northern Hemisphere the jet stream is sought by eastbound aircraft, in order to gain speed and save fuel, and avoided by westbound aircraft.

92.

Correct Order:

- A) Innovation in India is as much due to entrepreneurialism as it is to IT skills, says Arun Maria, chairman of Boston Consulting Group in India.
- B) Indian businessmen have used IT to create new business models that enable them to provide services in a more cost-effective way.
- C) This is not something that necessarily requires expensive technical research.
- D) He suggests the country's computer services industry can simply outsource research to foreign universities if the capability is not available locally.
- E) "This way, I will have access to the best scientists in the world without having to produce them

93.

Correct Order:





- A) Humans appear to be the only species which is able to translate their communication into another medium, and in this case the medium provides a semi-durable record of the elements of the communication.
- B) So reading is a very special ability that we have.
- C) Reading also is special because, unlike language, most children have to be taught to read, write and spell.
- D) So though we may be predisposed to being able to read and usually have the abilities necessary to master reading, it is something that most of us only accomplish through the direct help of others.

94.

Correct Order:

- A) Earlier this year, researchers from Duke University went to Gabon to monitor that country's dwindling elephant population. They took along three drones, which they planned to use to count the elephants, follow their herds, and map their migrations.
- B) Only things didn't exactly go as planned.
- C) The elephants noticed the drones, which hovered anywhere from 25 feet to 300 feet above them. And it wasn't just that the elephants noticed them; in many cases, the elephants were clearly agitated. Some of them took off running. In at least one case, an elephant used her trunk to hurl mud in the drone's direction.
- D) The elephants reacted so strongly, the researchers believe, because drones, it turns out, sound a lot like bees. And elephants do not like bees. At all.

95.

Correct Order:

- A) It is natural to be healthy, but we have wandered so far astray that disease is the rule and good health, the exception.



- B) Of course, most people are well enough to attend to their work, but nearly all are suffering from some ill, mental or physical, acute or chronic.
- C) There is too much illness, too much suffering.
- D) We are losing every year a vast army of individuals who are in their productive prime.
- E) The average individual is of less value to himself, to his family and to society than he could be.

96.

Correct Order:

- A) World Mental Health Day, started by the World Federation for Mental Health, first took place on 10 October 1992.
- B) It has been celebrated on this date ever since.
- C) For a brief definition from the World Health Organization, World Mental Health Day aims to raise awareness of mental health issues around the world and to mobilize efforts in support of mental health.
- D) This year's theme is 'Make mental health and well-being for all a global priority.'

97.

Correct Order:

- A) Slow travel is all about pacing yourself in a way that'll reduce the stress of fast and furious sightseeing.
- B) It is a way of mindful travelling, where you intentionally devote time to get immersed into things of importance to you rather than following a checklist of things to see and do.
- C) The greatest benefit is that you get to know the place better.



D) When you really let yourself soak the environment around you, you start noticing all the hidden nooks and crannies there, which gives you a chance to truly learn about the host culture.

98.

Correct Order:

- A) You've heard it from your fitness-junkie friends, and you've heard it on the TV: exercise is good for you.
- B) However, exercise does not need to be a strenuous daily grind.
- C) It is not all about running a marathon and then some, and it is definitely not meant to resemble strongman competitions.
- D) On the contrary, exercising should be enjoyable and include a level of effort you're able to give at that particular time.
- E) For beginners, that may be a light jog or a dance class, and for more advanced exercisers, that could look like a sweat-fest in the gym.

99.

Correct Order:

- A) Krill eat algae that grows beneath the sea ice.
- B) While krill may last over a hundred days without food, if there isn't enough ice, they eventually starve.
- C) Some scientists estimate Antarctic krill populations have fallen 80% since the 1970s.
- D) Part of the decline is almost certainly due to climate change, but other factors include increased commercial fishing and disease.

100.

Correct Order:

- A) A promising approach to career planning is the so-called career clusters.



- B) Career clusters encompass a series of similar and related careers within a particular branch.
- C) What you need to do is tick the boxes that fit, and cross off what sounds unappealing or downright off-putting.
- D) Finally you should set measurable goals to get to more attractive professions.

101.

Correct Order:

- A) Researchers have found that as many as 8% of rams (male sheep) demonstrate sexual attraction to other rams.
- B) A larger percentage demonstrates attraction to both males and females.
- C) While researchers continue to examine why these differences in sexual behavior occur, they have made one significant discovery related to animal brains.
- D) The difference occurs in a region of the brain called the anterior hypothalamus, where researchers identified the existence of what they called an 'ovine Sexually Dimorphic Nucleus.

102.

Correct Order:

- A) As if life as a student isn't difficult enough, you have to consider getting a job too.
- B) Working as a student can seem taxing and even scary if you haven't got much experience.
- C) However, on the other hand, getting that job means accumulating more practice and being able to supplement your income.



- D) Online tutoring is one of the more popular options students turn to in order to make some money and boost their knowledge.
- E) As an online tutor, you will most likely work through an intermediary. i.e. a company that offers to connect you with students.

103.

Correct Order:

- A) The traditional method for cooking a lobster, boiling it alive, raises the question of whether or not lobsters feel pain.
- B) This cooking technique (and others, such as storing the live lobster on ice) is used to improve humans' dining experience.
- C) However, if lobsters are capable of feeling pain, these cooking methods raise ethical questions for chefs and lobster eaters alike.
- D) Now a device called the CrustaStun has been invented to electrocutes a lobster, rendering it unconscious in less than half a second, after which it can be cut apart or boiled.

104.

Correct Order:

- A) Miss Brill is a regular visitor on Sundays to the Jardins Publiques (the Public Gardens) of a small French suburb.
- B) She listens to the band playing, and enjoys contemplating the world as a great stage upon which actors perform.
- C) One Sunday Miss Brill puts on her fur and goes to the Public Gardens as usual.
- D) That evening ends with her sudden realization that she is old and lonely, a realization brought to her by a conversation she overhears a comment on her unwelcome presence in their vicinity,
- E) Miss Brill is sad and depressed as she returns home.



105.

Correct Order:

- A) Career planning is a comprehensive venture which encompasses defining your goals and developing a feasible plan to achieve them.
- B) The great news about defining your career goals is that you will hear quite a few ideas and stories during your studies.
- C) Your lecturers might mention possible career paths, and there may be obligatory internships that can guide you towards your future job.
- D) Additionally, lots of university programs are structured in a way that will equip you with the necessary skills to find multiple employment options in the future.

106.

Correct Order:

- A) The automat is often considered to be an exclusively American phenomenon.
- B) However, in fact, the world's first restaurant of this kind opened in Berlin, Germany in 1895.
- C) Named Quisisana, this high-tech eatery established itself in other northern European cities.
- D) Quisisana soon licensed its technology to Joseph Horn, who opened the first American automat in Philadelphia in 1902.

107.

Correct Order:

- A) Traditional ways of finding an internship are not the only way to do it.
- B) In our digital world. looking for internships online brings just as satisfactory results as networking and calling companies.





- C) For instance, LinkedIn is one of those websites that'll make your search easier.
- D) This best-known job-hunting website covers internships too, you just need to apply the appropriate search filter.

108.

Correct Order:

- A) The mantle is the mostly-solid bulk of Earth's interior.
- B) The rocks that make up Earth's mantle are mostly silicates a wide variety of compounds that share a silicon and oxygen structure.
- C) Common silicates found in the mantle include olivine, garnet, and pyroxene.
- D) The other major type of rock found in the mantle is magnesium oxide.

109.

Correct Order:

- A) Deserts are dry areas where rainfall is less than 50 centimeters (20 inches) per year.
- B) They can be either very cold or hot, although most of them are found in subtropical areas.
- C) Because of this extreme condition, there is not as much biodiversity found in deserts.
- D) Any vegetation and wildlife living in a desert must have special adaptations for surviving in a dry environment.

110.

Correct Order:

- A) A biome is a large area characterized by its vegetation, soil, climate, and wildlife.



- B) There are five major types of biomes: aquatic, grassland, forest, desert, and tundra.
- C) As the most significant biome, aquatic biomes include both freshwater and marine biomes.
- D) Freshwater biomes are bodies of water surrounded by land that have a salt content of less than one percent.
- E) On the other hand, marine biomes cover close to three-quarters of Earth's surface.

111.

Correct Order:

- A) In August 1988, high winds changed small, smoldering wildfires in Yellowstone National Park into raging firestorms - an event that came to be known as "Black Saturday.
- B) Today, wildfire experts call the burning of Yellowstone. located in the western United States, something else: a "megafire."
- C) The U.S. Interagency Fire Center defines a megafire by its size: It is a wildfire that burns more than 40,500 hectares (100,000 acres) of land.
- D) Other wildfire experts expand the definition of a megafire beyond "acres burned" to mean wildfires that have an unusually large impact on people and the environment.

112.

Correct Order:

- A) Over time, fashion and people's tastes change.
- B) Such changes affect the demand for products and services.
- C) Changes in work patterns tend to mean that fewer families sit down in the evening for a traditionally produced family meal, often because a lack of time.



- D) Consequently, people are now more likely to buy takeaway meals or convenience food, as opposed to ingredients for meals that take time to prepare.
- E) In contrast, people now tend to spend more time shopping and are therefore more likely to spend time relaxing in a coffee shop or restaurant while on a shopping trip.

113.

Correct Order:

- A) The natural structure found within leaves could improve the performance of everything from rechargeable batteries to high-performance gas sensors, according to an international team of scientists.
- B) The researchers have designed a porous material that utilises a vascular structure, such as that found in the veins of a leaf, and could make energy transfers more efficient.
- C) The material could improve the performance of rechargeable batteries, optimising the charge and discharge process and relieving stresses within the battery electrodes, which, at the moment, limit their life span.
- D) The same material could be used for high performance gas sensing or for catalysis to break down organic pollutants in water.

114.

Correct Order:

- A) Meerkats, a small group-living mongooses in southern Africa, have been so extensively studied and filmed that we can follow individuals through their lives like characters in an animal soap opera.
- B) The Kalahari Desert meerkats, *Suricata Suricatta*, have been followed over generations.



- C) They are so habituated to humans that they will climb on and off weighing scales when a scientist wants to weigh an animal.
- D) It is remarkable that behavior, which at one time could only be observed by dedicated field workers, is now readily available for all of us to see.

115.

Correct Order:

- A) Although usually remembered today as a philosopher, Plato was also one of ancient Greece's most important patrons of mathematics.
- B) Inspired by Pythagoras, he founded his Academy in Athens in 387 BC, where he stressed mathematics as a way of understanding more about reality.
- C) In particular, he was convinced that geometry was the key to unlocking the secrets of the universe.
- D) The sign above the Academy entrance read: 'Let no-one ignorant of geometry enter here'.

116.

Correct Order:

- A) In 1844 the Mendip Hills Mining Company began work in the Charterhouse area.
- B) The company employed Cornish miners with experience and expertise of working deep tin mines.
- C) Initially, the aim was to exploit the ore at depth, which previous miners could not reach.
- D) Four deep shafts were sunk, up to 108m deep.

117.

Correct Order:



- A) Mandarin is the most common language in the world as it is the official language of Mainland China, Taiwan, and one of the official languages of Singapore.
- B) Thus, Mandarin is commonly referred to as 'Chinese'.
- C) But in fact, it is just one of many Chinese languages.
- D) Depending on the region, Chinese people also speak Wu, Hunanese, Jiangxinese, Hakka, Min, and many other languages.
- E) Even in one province, there can be multiple languages spoken. For example, in Fujian province, you can hear Min, Fuzhounese, and Mandarin being spoken, each being very distinct from the other.

118.

Correct Order:

- A) Researchers need to understand why different forms of locomotion evolved.
- B) Long-held assumptions, such as the need for energy efficiency, have already been overturned.
- C) For example, a mechanical ankle brace can improve the metabolic efficiency of human walking, implying that walking is inefficient.
- D) But variation of movement is important, too: such an ankle brace holds you back if you try to skip, gallop or skitter.
- E) Similarly, legged robots struggle to deploy different gaits, just as roboticists struggle to enumerate them.

119.

Correct Order:

- A) History is selective.
- B) What history books tell us about the past is not everything that happened, but what historians have selected.



- C) They cannot put in everything: choices have to be made.
- D) Choices must similarly be made about which aspects of the past should be formally taught to the next generation in the shape of school history lessons.

120.

Correct Order:

- A) About what an email list is. Sentence
- B) What the use of email list is. You can arrange contacts into a particular group in the email list. Sentence
- C) For example, if I am a group member, I can choose group-sending. Sentence
- D) Further explanation for the example. No new words, and very easy.

121.

Correct Order:

- A) A review is a survey of what you have covered.
- B) It is a review of what you are supposed to accomplish not what you are going to do.
- C) Rereading is an important part of the review process.
- D) Reread with the idea that you are measuring what you have gained from the process.

122.

Correct Order:

- A) If you look at how a US city is laid out on a map, you usually find a grid pattern of streets going from north to south and east to west, and they cross at a very precise 90-degree angle.
- B) In cities elsewhere, such as those in many European countries, streets follow a meandering pattern, following the rivers and natural landmarks.





- C) This is not simply a case of an older, irregular pattern giving way to a later American invention, however.
- D) The ancient Romans, for example, laid out their streets mathematically many years previously, and this also produced a grid pattern.

123.

Correct Order:

- A) There is a difference between Gandhiji's concept of secularism and that of Nehru's.
- B) In Gandhiji's view, secularism stands for equal respect for all religions.
- C) Nehru's idea of secularism was equally indifferent to all religions and bothering about none of them.
- D) Such secularism which means the rejection of all religions is contrary to our culture and tradition.
- E) Instead of doing any good, such secularism can do harm.

124.

Correct Order:

- A) We know very little about wild pandas because they are so rare and live in almost impenetrable forest.
- B) But in 2010 and 2011, Vanessa Hull of Michigan State University and her colleagues were given permission to attach GPS tracking collars to five pandas in the Wolong National Nature Reserve in China.
- C) The collars transmitted each animal's position every four hours, for up to two years.
- D) The team found that the home ranges of individual pandas overlapped and, on a few occasions, two animals spent several weeks in close proximity.



- E) "Sometimes the pandas were within 10 or 20 meters of each other, which suggests the pandas were in direct interaction," Hull says.

125.

Correct Order:

- A) Roads of rails called Wagonways were being used in Germany as early as 1550.
- B) These primitive railed roads consisted of wooden rails over which horse-drawn wagons or carts moved with greater ease than over dirt roads. Wagonways were the beginnings of modern railroads.
- C) By 1776, iron had replaced the wood in the rails and wheels on the carts.
- D) In 1789, Englishman, William Jessup designed the first wagons with flanged wheels.
- E) The flange was a groove that allowed the wheels to better grip the rail, this was an important design that carried over to later locomotives.

126.

Correct Order:

- A) Within the country, there are more than 100 schools in the country providing course and accommodations.
- B) Never choose a school without going to the place and having a look. You should go and see once you have a chance.
- C) You can see the facilities and accommodations around the school.
- D) Because you might be living there.
- E) And they can be helpful to your study as well.



## READING & WRITING : FILL IN THE BLANKS

- 1) First, the scientific community that studies climate change is quietly panic-stricken, because things are moving much faster than they expected. Greenhouse gas emissions are going up faster than \_\_\_\_\_ both from industrializing countries in Asia and from melting permafrost in Siberia and Canada. The Arctic Sea ice is melting so fast that the whole ocean may be ice-free in late summer in five years' time. Most climate scientists now see last year's report of the Intergovernmental Panel on Climate Change, whose forecasts are used by most governments for planning purposes, as a \_\_\_\_\_ historical document. Second, the biggest early impact of global warming will be on the food supply, both locally and globally. When the global average temperature hits one and a half degrees hotter – and it will, the carbon dioxide already in the atmosphere \_\_\_\_\_ us to that much warming – some countries will no longer be able to feed their people. Others, further from the equator, will still have enough food for themselves, but none to \_\_\_\_\_.

Option:-

- 1) credited, formed, predicted, ordered
- 2) purely, evenly, disproportionately, seemingly
- 3) commits, commit, committing, committed
- 4) spare, end, apply, span

Answer: predicted, purely, commits, spare

- 2) Individual human beings are relatively powerless creatures, no match for lions or bears. It's what they can do as groups that has \_\_\_\_\_ them to take over the planet. These groupings – corporations, religions, states – are now part of



a vast network of \_\_\_\_\_ information flows. Finding points of resistance, where smaller units can \_\_\_\_\_ up to the waves of information washing around the globe, is becoming harder all the time.

Option:-

- 1) enabled, contented, embodied, conjured
- 2) interconnected, overlapping, fastened, exploited
- 3) stand, raise, hail, pump

Answer: enabled, interconnected, stand

- 3) Used in a variety of courses in various disciplines, Asking the Right Questions helps students bridge the gap between simply memorizing or blindly accepting information, and the greater challenge of critical analysis and synthesis. \_\_\_\_\_, this concise text teaches students to think critically by exploring the components of arguments – issues, conclusions, reasons, evidence, assumptions, language – and on how to \_\_\_\_\_ fallacies and manipulations and obstacles to critical thinking in both written and visual communication. It teaches them to \_\_\_\_\_ to alternative points of view and develop a solid foundation for making personal choices about what to accept and what to reject.

Option:-

- 1) Articulately, Specifically, Conversely, Proportionately
- 2) escalate, spot, resume, stow
- 3) respond, descend, add, score

Answer: Specifically, spot, respond

- 4) Research demonstrates that facial appearance affects social perceptions. The current research investigates the \_\_\_\_\_ possibility: Can social



perceptions influence facial appearance? We examine a social tag that is associated with us early in life— our given name. The hypothesis is that name stereotypes can be manifested in facial appearance, producing a face-name matching effect, \_\_\_\_\_ both a social perceiver and a computer are able to accurately match a person’s name to his or her face. In 8 studies we demonstrate the existence of this effect, as participants examining an unfamiliar face accurately select the person’s true name from a list of several names, significantly above chance level. We replicate the effect in 2 countries and find that it extends \_\_\_\_\_ the limits of socioeconomic cues. We also find the effect using a computer-based paradigm and 94,000 faces. In our exploration of the underlying mechanism, we show that existing name stereotypes produce the effect, as its occurrence is culture-dependent. A self-fulfilling \_\_\_\_\_ seems to be at work, as initial evidence shows that facial appearance regions that are controlled by the individual (e.g., hairstyle) are sufficient to produce the effect, and socially using one’s given name is necessary to generate the effect. Together, these studies suggest that facial appearance represents social expectations of how a person with a specific name should look. In this way a social tag may influence one’s facial appearance.

Option:-

- 1) negligible, reverse, positive, sheer
- 2) notwithstanding, ever, whereby, despite
- 3) into, beyond, within, by
- 4) prophecy, observation, preference, stipulation

Answer: reverse, whereby, beyond, prophecy



- 5) The concept of health holds different meanings for different people and groups. These meanings of health have also \_\_\_\_\_ over time. This difference is no more \_\_\_\_\_ than in Western society today, when \_\_\_\_\_ of health and health promotion are being challenged and \_\_\_\_\_ in new ways.

Option:-

- 1) existed, changed, vanished, adopted
- 2) identical, unique, evident, ironic
- 3) contours, figures, notions, costs
- 4) emitted, served, dictated, expanded

Answer: changed, evident, notions, expanded

- 6) For the first time, dictionary publishers are \_\_\_\_\_ real, spoken English into their data. It gives lexicographers (people who write dictionaries) \_\_\_\_\_ to a more vibrant, up-to-date \_\_\_\_\_ language which has never really been studied before.

Option:-

- 1) incorporating, enlarging, treating, excluding
- 2) honor, access, prevision, privilege
- 3) obscure, indifferent, vernacular, common

Answer: incorporating, access, vernacular

- 7) Roman poet Ovid wrote that "there is nothing \_\_\_\_\_ in the universe. All ebb and flow, and every shape that's born bears in its \_\_\_\_\_ the seeds of change". These words are remarkably \_\_\_\_\_ when one considers the way life has changed through time as revealed by fossil record.

Option:-





- 1) orthodox, volatile, constant, cheap
- 2) heart, limb, womb, brain
- 3) prevalent, detached, relevant, dominant

**Answer:** constant, womb, relevant

- 8) Fascination with this material stems from its remarkable physical properties and the potential applications these properties offer for the future. \_\_\_\_\_ scientists knew one atom thick, two dimensional crystal graphene existed, no-one \_\_\_\_\_ out how to extract it from graphite. That was until it was isolated in 2004 by two researchers at The University of Manchester, Professor Andre Geim and Professor Kostya Novoselov. This is the story of how that stunning scientific feat came about and why Andre and Kostya won the Nobel Prize in Physics for their pioneering work. Andre and Kostya frequently held 'Friday night experiments' - sessions where they would try out experimental science that wasn't \_\_\_\_\_ linked to their day jobs.

**Option:-**

- 1) Since, Unless, However, Although
- 2) had worked, works, working, work
- 3) necessarily, fully, solely, indirectly

**Answer:** Although, had worked, necessarily

- 9) Team Lab's digital mural at the entrance to Tokyo's Skytree, one of the world's monster skyscrapers, is 40 metres long and immensely detailed. But \_\_\_\_\_ massive this form of digital art becomes – and it's a form subject to rampant inflation – Inoko's theories about seeing are based on more modest and often pre-digital sources. An early devotee of comic books and cartoons (no surprises there), then computer games, he recognised when he started to look at traditional Japanese art that all those forms had something \_\_\_\_\_: something about the way they captured space. In his discipline of physics,



Inoko had been taught that photographic lenses , \_\_\_\_\_ the conventions of western art, were the logical way of transforming three dimensions into two, conveying the real world onto a flat surface . \_\_\_\_\_ Japanese traditions employed 'a different spatial logic', as he said in an interview last year with jcollabo.org, that is 'uniquely Japanese'.

Option:-

- 4) however, ever, how, when
- 5) in fact, as whole, in common, of course
- 6) apart from, further afield, along with, out of
- 7) Thus, So, And, But

Answer: however, in common, along with, But

- 10) According to BT's futurologist, Ian Pearson, these are among the developments scheduled for the first few decades of the new millennium (a period of 1,000 years), when supercomputers will dramatically accelerate progress in all areas of life. Pearson has \_\_\_\_\_ together the work of hundreds of researchers around the world to produce a \_\_\_\_\_ millennium technology calendar that gives the latest dates when we can expect hundreds of key \_\_\_\_\_ and discoveries to take place. Some of the biggest developments will be in medicine, including an \_\_\_\_\_ life expectancy and dozens of artificial organs \_\_\_\_\_ into use between now and 2040.

Option:-

- 1) pieced, finalized, pictured, filled
- 2) hovering, compromised, unique, loose
- 3) plateaus, procrastinations, breakthroughs, devastations
- 4) shared, lubricant, entitled, extended



5) changing, coming, delving, squeezing

Answer: pieced, unique, breakthroughs, extended, coming

11) I do not think I am twisting the usual meaning of drama if I define it as a presentation before spectators by performers who take on roles and who interact with each other to further a story or a text intended for such presentations. This is intended as a \_\_\_\_\_ definition simple enough to be recalled easily. Indeed, it is so simple that I should point out that it makes one or two \_\_\_\_\_ that are perhaps not immediately obvious. First, to say that performers "take on roles" leaves \_\_\_\_\_ the possibility that they are not within the roles to other performances as such alternative phrases as "performers in character" or "characters represented by actors" do not. To say that the performers "interact with each other" might seem \_\_\_\_\_, but is in fact important, for in traditional societies there are many performances in which different characters appear successively and simultaneously but, \_\_\_\_\_, do not interact. And I say "to further a story" because a progression of the story may not provide the structure of the performance.

Option:-

1) hanging, working, using, applying

2) implementations, distributions, distinctions, comprehensions

3) go, covered, undoubted, open

4) uneven, unnecessary, unabated, uncaring

5) accordingly, timely, nevertheless, subsequently

Answer: working, distinctions, open, unnecessary, nevertheless

12) Research from the Terry College of Business reveals \_\_\_\_\_ a happy, helpful employee takes effort and, eventually, that effort \_\_\_\_\_ the energy needed



to do one's job. It could lead to quiet quitting – the new term for just doing your job but not going above and beyond – or even actual quitting. The more people adjust their moods to be happy, the fewer emotional resources they have \_\_\_\_\_ the end of the day. That means they are less able to handle challenging tasks and interactions and have a harder time staying on task. Their tank is empty despite being in a good mood, Frank explained. For managers, this means it may make more sense to meet employees \_\_\_\_\_ they are emotional and not force upbeat attitudes in the office. For employees, it may mean letting bad days happen and leaving more mood-demanding work – such as sales calls or tough conversations – for better days.

Option:-

- 1) becomes, becoming, become, become to
- 2) concludes, erodes, expects, collects
- 3) at, since, by, for
- 4) where, which, as, that

Answer: becoming, erodes, at, where

- 13) In this role, due to their working heritage, Border Collies are very demanding, playful, and energetic. They thrive best in households that can provide them with plenty of play and exercise, either with humans or other dogs. Due to their demanding personalities and need for mental \_\_\_\_\_ and exercise, many Border Collies develop problematic behaviors in households that are not able to provide for their needs. They are infamous for chewing holes in walls and furniture, and \_\_\_\_\_ scraping and hole digging, due to boredom. Border Collies may exhibit a strong desire to herd, a trait they may show with small children, cats, and other dogs. The breed's herding trait has been



deliberately encouraged, as it was in the dogs from which the Border Collie was developed, by selective breeding for many generations. However, being \_\_\_\_\_ trainable, they can live amicably with other pets if given proper socialization training. The American Border Collie Association recommends that potential owners, before taking on the breed as a household pet, should be sure they can provide regular exercise \_\_\_\_\_ with the collie's high energy and prodigious stamina. A working collie may run many miles a day, using its experience, personality and intelligence to control challenging livestock. These dogs will become \_\_\_\_\_ and frustrated if left in isolation, ignored or inactive. Like many working breeds, Border Collies can be motion-sensitive and may chase moving vehicles and bicycles, but this behavior can be modified by training. Some of the more difficult behaviors require patience, as they are developmental and may disappear as the dog matures.

Option:-

- 1) establishment, estimation, stimulation, condition
- 2) abrupt, mild, destructive, periodical
- 3) whole, mostly, eminently, minor
- 4) commensurate, collaborative, collective, evenly
- 5) tossed, pinched, distressed, consistent

Answer: stimulation, destructive, eminently, commensurate, distressed

- 14) The primary goal for this year-long campaign, founded by the English lawyer Peter Benenson and a small group of writers, academics and lawyers including Quaker peace activist Eric Baker, was to identify individual prisoners of conscience around the world and then campaign for their release. In early 1962, the campaign had received enough public support to become a permanent organization and was \_\_\_\_\_ Amnesty International. Under



British law, Amnesty International was classed as a political organization and therefore excluded from tax-free charity status. To work around this, the "Fund for the Persecuted" was established in 1962 to receive donations to support prisoners and their families. The name was later changed to the "Prisoners of Conscience Appeal Fund" and is now a separate and independent charity which provides relief and \_\_\_\_\_ grants to prisoners of conscience in the UK and around the world. Amnesty International has, since its founding, pressured governments to release those persons it considers to be prisoners of conscience. Governments, conversely, tend to deny that the specific prisoners identified by Amnesty International are, in fact, being held on the grounds Amnesty claims; they allege that these prisoners pose \_\_\_\_\_ threats to the security of their countries. The concept of "Prisoners of conscience" became a controversy around Nelson Mandela's \_\_\_\_\_.

Option:-

- 1) recharged, renamed, refunded, erased
- 2) engagement, measurement, illusion, rehabilitation
- 3) raw, genuine, radiated, trivial
- 4) imprisonment, felon, redemption, redundancy

Answer: renamed, rehabilitation, genuine, imprisonment

- 15) A superintelligence is any intellect that vastly outperforms the best human brains in practically every field, including scientific creativity, general wisdom, and social skills. This definition leaves open how the superintelligence \_\_\_\_\_: it could be in a digital computer, an ensemble of networked computers, cultured cortical tissue, or something else. On this definition, Deep Blue is not a superintelligence, since it is only smart within one narrow domain (chess), and even there it is not vastly superior \_\_\_\_\_ the best humans.





Entities such as corporations or the scientific community are not superintelligences either. Although they can perform a number of intellectual feats of which no individual human is capable, they are not \_\_\_\_\_ integrated to count as intellects, and there are many fields in which they perform much worse than single humans. For example, you cannot have a real-time conversation with the scientific community.

Option:-

- 1) has implemented, is implemented, implements, implementing
- 2) against, to, for, by
- 3) barely, sufficiently, vaguely, sparsely

Answer: is implemented, to, sufficiently

- 16) Many people today think of culture in the way that it was thought of in Europe during the 18th and early 19th centuries. This \_\_\_\_\_ of culture reflected inequalities within European societies and their colonies around the world. This understanding of culture equates culture with civilization and contrasts both with nature or non-civilization. According to this understanding of culture, some countries are more civilized than others, and some people are more cultured than others. Anything that doesn't \_\_\_\_\_ into this category is labeled as chaos or anarchy. From this perspective, culture is closely tied to cultivation, which is the progressive refinement of human \_\_\_\_\_. In practice, culture referred to elite goods and activities such as haute cuisine, high fashion or haute couture, museum-caliber art and classical music. The word cultured referred to people who knew about and took part in these activities. For example, someone who used culture in this sense might \_\_\_\_\_ that classical music is more refined than music by working-class people, such as jazz or the indigenous music traditions of aboriginal peoples.



Option:-

- 1) classification, concept, renovation, identity
- 2) cut, dismiss, fit, solve
- 3) blessing, curse, habit, behavior
- 4) argue, doubt, pretend, deny

Answer: concept, fit, behavior, argue

- 17) The logic of the scientific method was set out by John Stuart Mill in 1843 and was \_\_\_\_\_ the method of difference. A simple example of what he meant by this is to take two glasses of water which are identical in every \_\_\_\_\_. Introduce a few drops of ink into one of these glasses. The water changes color! \_\_\_\_\_ to Mill's method of difference it is safe to \_\_\_\_\_ that the change in the color of the water is due to the introduction of a new factor – the independent variable – in this case, the ink.

Option:-

- 1) capped, charged, solved, named
- 2) measure, thought, identity, respect
- 3) Compared, According, Contrary, Sorted
- 4) assume, discuss, prefer, acclaim

Answer: named, respect, According, assume

- 18) The heart functions as a pump at the centre of the circulatory system. In humans it is located in the chest cavity, between the lungs, \_\_\_\_\_ to the left. The heart consists of four chambers surrounded by a very strong muscular wall, the myocardium. The upper chambers, the right and left atria, \_\_\_\_\_ blood entering the heart, and the lower chambers, the right and left ventricles pump the blood out of the heart, via the pulmonary and the systemic



circulatory systems. The two systems work as \_\_\_\_\_. Blood from the body enters the right atrium, \_\_\_\_\_ passed into the right ventricle and from there is propelled through the pulmonary artery to the lungs. In the lungs the blood releases carbon dioxide and absorbs oxygen and is then \_\_\_\_\_ back to the heart into the left atrium. From here it passes into the left ventricle, which pumps the oxygenated blood around the body.

**Option:-**

- 1) compared, rather than, a bit, less than
- 2) lower, receive, repel, transfer
- 3) following, followed, follows, follow
- 4) being, is, has, had
- 5) dissolved, transported, discharged, multiplied

**Answer:** a bit, receive, follows, is, transported

- 19) Light is usually described as a form of energy and it is indeed a kind of electromagnetic energy, not much different from radio waves, television signals, heat, and X-rays. All of these are made up of waves that \_\_\_\_\_, bend, interfere with one another, and react with obstacles in their path, rather like waves in water. A physicist might tell you that light, along with all its electromagnetic relatives, is really a form of matter, little different from more \_\_\_\_\_ matter such as houses and, like them, it is made up of individual particles. Light particles, called photons, travel in streams, similar to the way in which water pours through a hose. To most people, this might sound paradoxical or illogical, as many things to do with physics seem to these days. How can light be both energy and matter, wave and particle? The reason it can be is, in fact, not at all \_\_\_\_\_: all energy is a form of matter. Almost everybody recognizes – even if they do not understand – Einstein’s famous



equation,  $E = mc^2$ , which spells it out: E refers to energy and m to the mass of matter. Furthermore, all matter has some of the characteristics of waves and some of the particles, but the waves of such solid-seeming things as houses are not \_\_\_\_\_ and can generally be ignored because ordinary matter acts as if it were made up of particles.

Option:-

- 1) spread, curve, occur, inflict
- 2) invisible, valuable, abstract, substantial
- 3) apparent, complicated, abrupt, implicit
- 4) responsible, accurate, discernible, consecutive

Answer: spread, substantial, complicated, discernible

20) Comparing the intelligence of animals of different species is difficult, how do you compare a dolphin and a horse? Psychologists have a technique for looking at intelligence that \_\_\_\_\_ not require the cooperation of the animal involved. The relative size of an individual's brain is a reasonable indication of intelligence. Comparing \_\_\_\_\_ species is not as simple as generally expected. An elephant will have a larger brain than a human has simply because it is a large beast. \_\_\_\_\_, we use the Cephalization index, which compares the size of an animal's brain with the size of its body. Based on the Cephalization index, the brightest animals on the planet are humans, \_\_\_\_\_ by great apes, porpoises and elephants. As a general \_\_\_\_\_, animals that hunt for a living (like canines) are smarter than strict vegetarians (you don't need much intelligence to outsmart a leaf of lettuce). Animals that live in social groups are always smarter and have larger EQ's than solitary animals.

Option:-

- 1) can, do, did, does



- 2) across, to, through, with
- 3) Then, Instead, Because, Otherwise
- 4) followed, follows, follow, following
- 5) theory, principal, rule, principle

**Answer:** does, across, Instead, followed, rule

21) It is tempting to try to prove that good looks win votes, and many academics have tried. The \_\_\_\_\_ is that beauty is in the eye of the \_\_\_\_\_, and you cannot behold a politician's face without a veil of extraneous prejudice getting in the way. Does George Bush possess a disarming grin, or a facetious \_\_\_\_\_? It's hard to find anyone who can look at the president without assessing him politically as well as \_\_\_\_\_.

**Option:-**

- 1) principle, idea, difficulty, concept
- 2) people, beholder, builder, audience
- 3) smell, complexion, smirk, binge
- 4) culturally, physically, economically, individually

**Answer:** difficulty, beholder, smirk, physically

22) Giant exoplanets, like the so-called 'hot Jupiters' that are similar in \_\_\_\_\_ to the solar system's biggest \_\_\_\_\_ and orbit very close to their host stars, are excellent targets for \_\_\_\_\_ in their search for their extrasolar worlds. The size and proximity of these planets is easy to \_\_\_\_\_ as they create a large decrease in brightness when passing in front of their parent stars.

**Option:-**

- 1) borders, expressions, characteristics, shapes
- 2) frame, subordinate, planet, comet



- 3) members, astronomers, parties, makers
- 4) denounce, detect, deflect, determine

Answer: characteristics, planet, astronomers, detect

23) The introduction of security footage in courtrooms as evidence is increasingly common. With the number of closed-circuit television (CCTV) cameras rising, the likelihood of images deemed relevant for criminal proceedings being recorded also increases. However, while CCTV footage may arguably have assisted in achieving \_\_\_\_\_ in some high-profile cases, can it assist in the overall reduction of violence against women? A well-known example in Australia of CCTV helping solve a crime is the footage pulled from a shop on Sydney Road the night Jill Meagher was raped and murdered by Adrian Bayley. This footage was mentioned in his sentencing in 2013. In the same year, Simon Gittany was found \_\_\_\_\_ of the murder of his partner Lisa Harnum. CCTV footage – taken from his own security cameras – was again \_\_\_\_\_ as key evidence. Beyond the courtroom, news media reports of crime are saturated with the use of CCTV footage. In both contexts, it is often seen to be \_\_\_\_\_ – an authoritative and objective witness that can tell us “what really happened”. While used in a range of offenses, its inclusion in instances of extreme (and public) violence against women can mean certain images receive significant and sustained media \_\_\_\_\_, and may remain online indefinitely. The strength of CCTV in our public consciousness is such that questions of privacy are often dismissed as inconsequential. CCTV installed in the homes of family violence victims has even been considered.

Option:-

- 1) convictions, discharges, disclaimers, connections
- 2) guilty, excessive, obsessive, abundant





- 3) interpreted, changed, disciplined, dictated
- 4) doubtful, decisive, inclusive, incisive
- 5) abortion, conception, abruption, attention

Answer: convictions, guilty, interpreted, decisive, attention

24) Finnish researchers have installed the world's first fully working "sand battery", which can store green power for months at a time. The developers say this could solve the problem of year-round supply, a major issue for green energy. Using low-grade sand, the device \_\_\_\_\_ heat made from cheap electricity from solar or wind. The sand stores the heat at around 500C, \_\_\_\_\_ can then warm homes in winter when energy is more expensive. Because of climate change and now thanks to the rapidly rising price of fossil fuels, there's a surge of investment in new renewable energy production. But \_\_\_\_\_ new solar panels and wind turbines can be quickly added to national grids, these extra sources also present huge challenges. \_\_\_\_\_, most batteries are made with lithium and are expensive with a large, physical footprint, and can only cope with a limited amount of excess power. One of the big challenges now is whether the technology can be scaled up to really make a difference and will the developers be able to use it to get electricity out \_\_\_\_\_ heat? The efficiency falls dramatically when the sand is used to just return power to the electricity grid.

Option:-

- 1) substitutes for, is caught up with, lives up to, is charged up with
- 2) which, however, what, that
- 3) except, therefore, while, then
- 4) Of course, Besides, Apart from, Right now
- 5) as well as, inside, despite, along



Answer: is charged up with, which, while, Right now, as well as

25) During the day, the sun heats up both the ocean surface and the land. Water is a good absorber of the energy from the sun. The land absorbs much of the sun's energy as well. However, water heats up much more slowly than land and so the air above the land will be \_\_\_\_\_ compared to the air over the ocean. The warm air over the land will rise throughout the day, causing low pressure at the surface. Over the water, high surface pressure will form because of the colder air. To \_\_\_\_\_, the air will sink over the ocean. The wind will blow from the higher pressure over the water to lower pressure over the land causing the sea breeze. The sea breeze strength will vary depending on the temperature \_\_\_\_\_ between the land and the ocean.

Option:-

- 1) warmer, more frigid, freezer, more sizzling
- 2) cover, compensate, concentrate, precipitate
- 3) variation, distinction, differentiation, difference

Answer: warmer, compensate, difference

26) Sportswomen's records are important and need to be preserved. And if the paper records don't \_\_\_\_\_, we need to get out and start interviewing people, not to put too fine a \_\_\_\_\_ on it, while we still have a \_\_\_\_\_. After all, if the records aren't kept in some form or another, then the stories are \_\_\_\_\_ too.

Option:-

- 1) exist, has, too
- 2) have, point, put
- 3) chance, force, paper



4) appear, pending, lost

Answer: exist, point, chance, lost

27) The world's atmosphere is forever on the move. Wind is air in motion. Sometimes air moves slowly, giving a \_\_\_\_\_ breeze. At other times it moves rapidly creating gales and hurricanes. Gentle or fierce, wind always starts in the same way. As the sun moves through the sky, it heats up some parts of the sea and land more than others. The air above these \_\_\_\_\_ spots is warmed, becomes lighter than the surrounding air, and begins to rise. Elsewhere, cool air sinks, because it's heavier. Winds blow because- air squeezed out by sinking, cold air is sucked in under rising, warm air. Winds will blow wherever there is a \_\_\_\_\_ in air temperature and pressure, always flowing from high to low pressure. Some winds blow in one place, and have a local name – North America's chinook and France's mistral. Others are part of a huge circulation pattern that sends winds over the \_\_\_\_\_ globe.

Option:-

- 1) Heavy, pressure, gentle,
- 2) fierce, weighted, hot,
- 3) difference, expected, heavier
- 4) entire, workers, balance

Answer: gentle, hot, difference, entire

28) Evidence for a genetic basis of antisocial behavior stems from several different lines of research. First, behavioral genetic studies of twins and adoptees have demonstrated that \_\_\_\_\_ plays a role in antisocial behavior, including various forms of aggression and criminality, by finding greater concordance for such behavior in genetically \_\_\_\_\_ individuals,



compared to non-relatives living in the same environment. Second, various correlates of antisocial behavior, including personality factors such as impulsivity, sensation seeking, risk-taking, and callous-unemotional traits, are known to be at least partly genetically \_\_\_\_\_. Third, psychiatric outcomes related to antisocial behavior, including antisocial personality disorder, gambling, and substance use and abuse, have also been \_\_\_\_\_ in genetically informative designs, and each of these has demonstrated significant genetic links.

Option:-

- 1) parenting, environment, heredity, culture
- 2) identical, related, diverse, idealized
- 3) delivered, managed, directed, influenced
- 4) inferred, investigated, inspected, integrated

Answer: heredity, related, influenced, investigated

- 29) In a sequence of bestsellers, including *The Language Instinct* and *How the Mind Works*, Pinker has argued that swathes of our mental, social and emotional lives may have \_\_\_\_\_ as evolutionary adaptations, well suited to the lives our ancestors eked out on the Pleistocene savannah. Sometimes it seems as if nothing is \_\_\_\_\_ from being explained this way. Road rage, adultery, marriage, altruism, our tendency to reward senior executives with corner offices on the top floor, and the small number of women who become mechanical engineers – all may have their \_\_\_\_\_ in natural selection, pinker claims. The controversial implications are obvious: that men and women might \_\_\_\_\_ in their inborn abilities at performing certain tasks, for example, or that parenting may have \_\_\_\_\_ influence on personality.

Option:-



- 1) Physical, tasks, originated,
- 2) immune, mental, implied
- 3) implications, instincts, roots,
- 4) differ, explained, single
- 5) improved, little, last

Answer: originated, immune, roots, differ, little

30) No one in Parliament would know better than Peter Garrett what largesse copyright can \_\_\_\_\_ so it may seem right that he should announce a royalty for artists, amounting to 5 per cent of all sales after the original one, which can go on giving to their families for as much as 150 years. But that ignores the truth that copyright law is a \_\_\_\_\_, recently exacerbated by the Free Trade Agreement with the US which required extension of copyright to 70 years after death. Is it scandalous that really valuable copyrights end up in the ownership of corporations (although Agatha Christie's no-doubt worthy great-grandchildren are still \_\_\_\_\_ the benefits of West End success for her who dunnits and members of the Garrick Club enjoy the continuing fruits of A.A. Milne's Christopher Robin books)? No. The scandal is that been peasants politicians have attempted to appear cultured by creating private assets which depend on an act of Parliament for their existence and by giving away much more in value than any public benefit could \_\_\_\_\_. In doing so they have betrayed.

Option:-

- 1) loyalty, floaty, royalty, confer
- 2) humiliation, slander, insult scandal
- 3) reaching, garnishing, reaping, gaining
- 4) testify, justify, satisfy, rubify





Answer: confer, scandal, reaping, justify

31) The space work for an astronaut can be inside or outside, inside they can monitor machines and the work is carried out alongside the craft. They also need to make sure the \_\_\_\_\_ Travel \_\_\_\_\_ the craft, they can see how the seeds react in the space. Some seeds company send seeds to them to investigate how seeds change their biological character. When \_\_\_\_\_ the craft, they can set up experiments or clean \_\_\_\_\_ the space rubbish.

Option:-

- 1) Inhale, travel, Space,
- 2) Outside, moved, investigate
- 3) on, outside, carried
- 4) up, express, why

Answer: space, outside, outside, up

32) Egg-eating snakes are a small group of snakes eat only eggs as part of their \_\_\_\_\_. Some eat only small eggs which are \_\_\_\_\_ to eat, while some snakes eat bird's eggs, which they have to swallow \_\_\_\_\_, as the snake has no teeth. Instead, these snakes have \_\_\_\_\_ that stick out from the backbone. The spines crack the egg \_\_\_\_\_ as it passes through the throat. Once the egg is punctured, muscles in the snake's body work in waves to squeeze out the contents, which then move down into the stomach. The snake then forces the shell back into its mouth by bending its body into an 'S' shape. The shell is now drained and flattened into a compact shape. Egg eating snakes sometimes have to go for a long time without any food. So, they eat as many eggs as they can when they get them!

Option:-





- 1) Eat, stick, diet
- 2) moved, easy, swallow
- 3) whole, part, side,
- 4) money, payroll, spines
- 5) open, new, instant

**Answer:** diet, easy, whole, spines, open

33) Paris is very old— there has been a settlement there for at least 6000 years and its shape has been determined in part by the River Seine, and in part by the edicts of France's rulers. But the great boulevards we admire today are relatively new, and were constructed to prevent any more barricades \_\_\_\_\_ by the rebellious population; that work was carried out in the middle 19th century. The earlier Paris had been in part a maze of narrow streets and alleyways. But you can imagine that the work was not only highly expensive, but caused great distress among the half a million or so whose houses were \_\_\_\_\_ razed, and whose neighborhoods disappeared. What is done cannot usually be undone, especially when buildings are torn \_\_\_\_\_.

**Option:-**

- 1) Creating, create, being created, having been created
- 2) Simply, merely, only, justly
- 3) down, up, apart, afar

**Answer:** being created, simply, down

34) The rest of the universe appears to be made of a mysterious, invisible \_\_\_\_\_ called dark matter and a force that \_\_\_\_\_ gravity known as dark energy. Scientists have not yet \_\_\_\_\_ dark matter directly. It doesn't



interact with baryonic matter, and it's completely invisible to light and other forms of electromagnetic radiation, making dark matter impossible to detect with current instruments. But scientists are confident it exists because of the \_\_\_\_\_ effects it appears to have on galaxies and galaxy \_\_\_\_\_.

Option:-

- 1) Substance, material, property, subject
- 2) Repels, beats, gathers, fights against
- 3) Looked, tested, smelled, observed
- 4) Gravity, gravitational, constitutional, national
- 5) Balls, flocks, clusters, bunches

Answer: substance, repels, observed, gravitational, clusters

35) In reality, however, the causes of truancy and \_\_\_\_\_ are diverse and multi-faceted. There are as many causes of non-attendance as there are non-attenders. Each child has his/her own \_\_\_\_\_ story, and whilst there may often be certain identifiable factors in common, each non-attending child demands and \_\_\_\_\_ an individual response, tailored to meet his/her individual needs. This applies \_\_\_\_\_ to the 14-year-old who fails to attend school because a parent is terminally ill, the overweight 11-year-old who fails to attend because he is \_\_\_\_\_ about changing for PE in front of peers, the 15-year-old who is 'bored' by lessons, and to the seven-year-old who is teased in the playground because she does not wear the latest designer label clothes.

Option:-

- 1) non-compliance, non-sense, non-attendance, non-binding
- 2) unorthodox, unique, novel, prolific
- 3) deserves, earns, combats, dissects



- 4) commonly, equally, instantly, gorgeously
- 5) ashamed, shy, embarrassed, embedded

**Answer:** non-attendance, unique, deserves, equally, embarrassed

36) Three degrees does not sound like much, but it \_\_\_\_\_ a rise in temperature compared with the global heating that occurred between the last ice age, some 15,000 years ago, and the warmth of the eighteenth century. When Earth was cold, giant glaciers sometimes extended from the polar regions as far south as St Louis in the US and the Alps in Europe. Later this century when it is three degrees hotter glaciers everywhere will be melting in a climate of often \_\_\_\_\_ heat and drought, punctuated with storms and floods. The \_\_\_\_\_ for humanity could be truly horrific; if we fail to act swiftly, the full impact of the plants and animals with whom we share Earth. In a worst-case scenario, there might - in the twenty-second century - be only a remnant of humanity eking out a \_\_\_\_\_ existence in the polar regions and the few remaining oases left on a hot and arid Earth.

**Option:-**

- 1) proves, undermines, represents, explores represents,
- 2) tolerate, generate, intense unbearable,
- 3) evolution, aims, reasons consequences
- 4) diverse, direct, dilute, diminished

**Answer:** represents, unbearable, consequences, diminished

37) Clones of an Eastern cottonwood (*Populus deltoids*) in the Bronx and other city spots grew to double the biomass of clones \_\_\_\_\_ outside small towns upstate or on Long Island, says Jillian Gregg, now of the Environmental Protection Agency's western ecology division in Corvallis, Ore. The growth gap



comes from ozone damage, she and her New York colleagues report. Ozone chemists have known that concentrations may spike skyscraper high in city air, but during a full 24 hours, rural trees actually get a higher cumulative ozone exposure from urban pollution that \_\_\_\_\_ in and lingers. A series of new experiments now shows that this hang-around ozone is the \_\_\_\_\_ factor in tree growth, the researchers say in the July 10 Nature. "This study has profound importance in showing us most vividly that rural areas pay the \_\_\_\_\_ for urban pollution," says Stephen R Long of the University of Illinois at Urbana-Champaign. "This work should be a wake-up call," he adds.

Option:-

- 1) planted, produced, protected, preserved
- 2) breezes, blows, puffs, set
- 3) surprising, frightening, overwhelming, astonishing

lessons, price, effect, cost

Answer: planted, blows, overwhelming, price

- 38) Stress that tense feeling often connected to having too much to do, too many \_\_\_\_\_ to pay and not enough time or money – is a common emotion that knows \_\_\_\_\_ borders. About three-fourths of people in the United States, Australia, Canada, France, Germany, Italy, South Korea and Britain reported experiencing stress on a daily basis, according to AP-Ipsos \_\_\_\_\_. Anxious feelings were more intense during the holidays. Germans feel stress more \_\_\_\_\_ than those in other countries polled. People in the United States \_\_\_\_\_ financial pressures as the top worry. About half the people polled in Britain



said they frequently or sometimes felt that life was beyond their control, the highest level in the 10 countries surveyed.

Option:-

- 1) practices, bills, money, time
- 2) printed, solid, dash, few
- 3) series, news, polling, pants
- 4) intensely, openly, early, traditionally
- 5) enjoyed, cited, created, exited

Answer: bills, few, polling, intensely, cited

39) A bonus of dendrochronology is that the width and substructure of each ring \_\_\_\_\_ the amount of rain and the \_\_\_\_\_ at which the rain fell during that particular year. Thus, tree ring studies also allow one to reconstruct \_\_\_\_\_ climate; e.g., a series of wide rings means a wet period, and a \_\_\_\_\_ of narrow rings means a \_\_\_\_\_.

Option:-

- 1) covet, reflect, register, copy
- 2) timing, duration, division, season
- 3) then, before, past, pass
- 4) seam, serious, serial, series
- 5) drought, hardness, humidity, strength

Answer: reflect, season, past, series, drought

40) The six programs represented here report that word of mouth is by far their most effective recruitment tool, particularly because it typically yields candidates who are similar to previously successful candidates. Moreover, satisfied candidates and school systems are likely to \_\_\_\_\_ the word



without any special \_\_\_\_\_ on the part of their program. Other, less personal advertising approaches, such as radio and television spots and local newspaper advertisements, have also proven fruitful, \_\_\_\_\_ for newer programs. New York uses a print advertising campaign to inspire dissatisfied professionals to become teachers. Subway posters send provocative \_\_\_\_\_ to burned-out or disillusioned professionals. "Tired of diminishing returns? Invest in NYC kids" was just one of many Madison Avenue-inspired invitations. News coverage has also proven to be a \_\_\_\_\_ to alternative programs. When the New York Times, for example, ran a story about the district's alternative route program, 2,100 applications flooded in over the next six weeks.

Option:-

- 1) spread, deepen, unfold, splay
- 2) effect, errand, effort, emotion
- 3) rarely, totally, especially, likely
- 4) telling, warning, messages, stories
- 5) facet, charge, boon, burden

Answer: spread, effort, especially, messages, boon

- 41) International trade allows countries to expand their markets and access goods and services that \_\_\_\_\_ may not have been available domestically. As a \_\_\_\_\_ of international trade, the market is more efficient. This ultimately leads to more competitive pricing and brings \_\_\_\_\_ products to consumers.

Option:-

- 1) either, thus, otherwise, likely
- 2) result, prelude, degree, delegation





3) cheaper, newer, all, novel

**Answer:** otherwise, result, cheaper

42) Crime prevention has a long history in Australia, and in other parts of the world. In all societies, people have tried to \_\_\_\_\_ themselves and those close to them from assaults and other abuses. Every time someone locks the door to their house or their car, they \_\_\_\_\_ prevention. Most parents want their children to learn to be law abiding and not spend extended periods of their lives in prison. In this country, at least, most \_\_\_\_\_. Only a small minority of young people become recidivist offenders. In a functioning society, crime prevention is part of everyday life. While prevention can be all-pervasive at the grassroots, \_\_\_\_\_ is oddly neglected in mass media and political discourses. When politicians, talkback radio hosts and newspaper editorialists pontificate about crime and possible \_\_\_\_\_, it is comparatively rare for them to mention prevention. Overwhelmingly, emphasis is on policing, sentencing and other 'law and order' responses.

**Option:-**

- 1) promote, respect, protect, enhance
- 2) part of, a form of, relation to, addition to
- 3) succeeded, has succeeded, succeed, was succeeded
- 4) which, it, what, as
- 5) recipes, remedies, comedies, commodities

**Answer:** protect, a form of, succeed, it, remedies

43) Since the beginning of the financial crisis, there have been two principal \_\_\_\_\_ for why so many banks made such disastrous decisions. The first is structural. Regulators did not regulate. Institutions failed to \_\_\_\_\_ as they should. Rules and guidelines were either inadequate or ignored. The second



explanation is that Wall Street was \_\_\_\_\_, that the traders and investors didn't know enough, that they made extravagant bets without \_\_\_\_\_ the consequences.

Option:-

- 1) explanations, debates, excuses, examples
- 2) function, use, stabilize, maintain
- 3) rough, rampant, incompetent, irresponsible
- 4) counting, understanding, correcting, valuing

Answer: explanations, function, incompetent, understanding

44) Thus the environmental policy does not contribute to the profitability in any real sense at all. In practice it is companies that are well organized and efficient , or that are already comfortably profitable, that have time to \_\_\_\_\_ and police environmental policies. However, if profitable companies are the ones most likely to establish 'environmental best \_\_\_\_\_' this is confusing cause with effect. It is not that environmental best practice causes profitability, but that being profitable allows for \_\_\_\_\_ for the environment.

Option:-

- 1) cater, enlist, enrol, establish
- 2) practice, vocation, code, revision
- 3) concern, level, effect, bother

Answer: establish, practice, concern

45) There were twenty-six freshmen \_\_\_\_\_ in English at Beijing Language Institute in the class of 1983. I was assigned to Group Two with another eleven boy and girls who had \_\_\_\_\_ big cities in China. I was told that language



study required smallness so that we would each get more attention from the skillful teachers. The better the school, the smaller the class. I realized that my classmates were ready all \_\_\_\_\_ in English, simple sentences tossed out to each other in their red-faced introductions and carefree chatting. Their intonations were curving and dramatic and their pronunciation refined and accurate. But as I stretched to catch the drips and drops of their humming dialogue, I couldn't \_\_\_\_\_ it all, only that it was English. Those words now flying before me sounded a little familiar. I had read them and tried to speak them, but I had never heard them \_\_\_\_\_ back to me in such a speedy, fluent manner. My big plan of \_\_\_\_\_ the city folks were thawing before my eyes.

Option:-

- 1) Getting, majoring, interesting, concentrating
- 2) come at, come along, come from, come across
- 3) talking, tying, drinking, looking at
- 4) suspect, understand, wonder, convince
- 5) speak, are speaking, spoke, spoken
- 6) cheering, beating, relying, staying

Answer: majoring, come from, talking, understand, spoken, beating

- 46) In these distant times, the sun was seen to make its daily \_\_\_\_\_ across the sky. At night the moon appeared. Every new night the moon waxed or waned a little and, on a few nights, it did not appear at all. At night the great dome of the heavens was dotted with tiny specks of light. They \_\_\_\_\_ know as the stars. It was thought that every star in the heavens had its own purpose and that the \_\_\_\_\_ of the universe could be discovered by making a study of



them. It was well known that there were wandering stars, they appeared in different nightly positions against their neighbors and they became known as planets. It took centuries, in fact, it took millennia, for man to \_\_\_\_\_ the true nature of these wandering stars and to evolve a model of the world to accommodate them and to predict their positions in the sky.

Option:-

- 1) journey, voyage, travel, flight
- 2) had become, has become, is becoming, became
- 3) prediction, prophecy, secrets, system
- 4) distinguish, determine, distribute, dedicate

Answer: journey, became, secrets, determine

- 47) Top US business schools are recruiting younger, less experienced candidates in an effort to boost applications and head off competition for the best students from other graduate programs such as law and public policy. In an attempt to \_\_\_\_\_ new students, leading business schools – including Harvard, Stanford, the University of Chicago and Wharton – have moved away from the unofficial admissions \_\_\_\_\_ of four years' work experience and \_\_\_\_\_ have set their sights on recent college graduates and so-called "early career\*" \_\_\_\_\_ with only a couple years of work under their belt.

Option:-

- 1) Experience, expertise lure
- 2) Life, leading, prerequisite
- 3) develop, belt, instead
- 4) heard of, lure, professionals



Answer: lure, prerequisite, instead, professionals

48) In animals, movement is coordinated by a cluster of neurons in the spinal cord called the central pattern \_\_\_\_\_(CPG). This produces signals that drive muscles to \_\_\_\_\_ rhythmically in a way that produces running or walking, depending on the pattern of \_\_\_\_\_. A simple signal from the brain instructs the CPG to switch between different \_\_\_\_\_, such as going from a standstill to walking.

Option:-

- 1) Receptor, generator, genitors, generates
- 2) act, release, contract, construct
- 3) beats, rhythm, pauses, pulses
- 4) modes, elements, moods, moods elects

Answer: generator, contract, pulses, modes

49) Scientists make observations, have assumptions and do \_\_\_\_\_. After these have been done, they get their \_\_\_\_\_. Then there is a lot of \_\_\_\_\_ from scientists. The scientists around the world have a \_\_\_\_\_ of world.

Option:-

- 1) publication, experiment, assumption, research
- 2) results, research, production, principles
- 3) dates, data, collection, discoveries
- 4) potential, picture, scientific, potentially

Answer: experiment, results, data, picture

50) Once an organization has its product to sell, it must then \_\_\_\_\_ the appropriate price to sell it at. The price is set by balancing many factors



including supply-and-demand, cost, desired profit, competition, perceived value, and market behavior. Ultimately, the final price is determined by what the market is willing to \_\_\_\_\_ for the product. Pricing theory can be quite complex because so many \_\_\_\_\_ influence what the purchaser \_\_\_\_\_ is a fair value.

Option:-

- 1) Detect, determine, deleted, dispose
- 2) exchange, change, promote, confirm
- 3) reasons, features, factors, messages
- 4) interact, debates, present, decides

Answer: determine, exchange, factors, decides

51) The writer- or, for that matter, the speaker conceives his thought 'whole', as a unity, but must express it in a line of words; the reader- or listener- must take this line of symbols and from it \_\_\_\_\_ the original wholeness of thought. There is \_\_\_\_\_ difficulty in conversation, because the listener receives innumerable cues from the physical expressions of the speaker; there is a dialogue, and the listener can \_\_\_\_\_ in at any time. The advantage of group discussion is that people can overcome linear sequence of words by \_\_\_\_\_ on ideas from different directions; which makes for wholeness of thought. But the reader is confronted by line upon line of printed symbols, without benefits of physical \_\_\_\_\_ and emphasis or the possibility of dialogue or discussion.

Option:-

- 1) flirted, reconstruct, engage, rename
- 2) litter, more, few, little





- 3) cut, some, give, coming
- 4) changing, sharing, conversing, converting
- 5) tone, appearance, force, mood

Answer: reconstruct, little, cut, conversing, tone

52) Bhutan is the last standing Buddhist Kingdom in the World and, until recently, has \_\_\_\_\_ much of their culture since the 17th century by avoiding globalization and staying isolated from the world. Internet, television, and western dress were banned from the country up until ten years ago. But over the past ten years globalization has begun to change in Bhutan, but things remain \_\_\_\_\_ balanced. Bhutan is the only country in the world that has a 'GNH.' You may think GNH is just another \_\_\_\_\_ based term with no real-life application, but it refers to "Gross National Happiness." The process of measuring GNH began when Bhutan opened up to globalization. It measures people's quality of life, and makes sure that "material and spiritual development happen together." Bhutan has done an amazing job of finding this balance. Bhutan has continually been (ranked) as the happiest country in all of Asia, and the eighth Happiest Country in the world according to Business Week. In 2007, Bhutan had the second fastest growing GDP in the world, at the same time as \_\_\_\_\_ their environment and cultural identity. Bhutan is the only Buddhist Kingdom in the world; Mahayana Buddhism is the official religion of Bhutan. Over two thirds of the people are Buddhist, and Buddhism is supported by the government both politically and economically. The government gives \_\_\_\_\_ to Buddhist monasteries, shrines, monks and other Buddhist programs.

Option:-

- 1) prefer, preserved, preserves, selected



- 2) perfectly, greatly, fully, very
- 3) statistically, statistical, scientifically
- 4) keeping, balancing, marinating, maintaining
- 5) subsidy, special, subsidies, sanctity

**Answer:** preserved, perfectly, statistically, maintaining, subsidies

53) Descendants of the Maya living in Mexico still sometimes refer to themselves as 'the corn people'. The phrase is not intended as metaphor. Rather, it's mean to \_\_\_\_\_ their abiding dependence on this miraculous grass, the \_\_\_\_\_ of their diet for almost 9000 years. [For an American like me, growing up linked to a very different food chain, yet one that is also rooted in corn, not to think of himself as a corn person suggests either a failure of imagination or a triumph of capitalism. Or perhaps a little of both. For the great edifice of variety and choice that is an American supermarket rests on a remarkably narrow biological foundation: corn. It's not merely the feed that the steers and the chickens and the pigs and the turkeys ate; it's not just the source of the flour and the oil and the leavenings, the glycerides and coloring in the processed foods; it's not just sweetening the soft drinks or lending a shine to the magazine cover over by the checkout. fiberglass and adhesives out of which the building itself has been built-is in no small measure a \_\_\_\_\_ of corn.

**Option:-**

- 1) Remember, renown, knowledge, acknowledge
- 2) fix, staple, range, variety
- 3) display, show, manifestation, exhibition

**Answer:** acknowledge, staple, manifestation



54) The few people who live in Alaska's Aleutian Islands have long been accustomed to \_\_\_\_\_. They have been part of local consciousness since a Japanese whaling \_\_\_\_\_ ran aground near the western end of the 1,100-mile (1,800-km) volcanic \_\_\_\_\_ in 1780, inadvertently naming what is now Rat Island when the ship's \_\_\_\_\_ scurried ashore and made itself at home. Since then, there have been at least 190 shipwrecks in the islands.

Option:-

- 1) Ships, accidents, boost, shipwrecks
- 2) sail, ship, shipped, boat
- 3) islet, archaeology, archipelago, island
- 4) infestation, infest, infested, manifestation

Answer: shipwrecks, ship, archipelago, infestation

55) A DOG may be man's best friend. But man is not always a dog. Over the centuries \_\_\_\_\_ breeding has pulled at the canine body shape to produce what is often a grotesque distortion of the underlying wolf. Indeed, some of these distortions are, when found in people, regarded as \_\_\_\_\_. Dog breeding does, though, offer a chance to those who would like to understand how body shape is controlled. The \_\_\_\_\_ of pedigree pooches is well recorded, their generation time is short and their \_\_\_\_\_ size reasonably large, so there is plenty of material to work with. \_\_\_\_\_, breeds are, by definition, inbred, and this simplifies genetic analysis. Those such as Elaine Ostrander, of America's National Human Genome Research Institute, who wish to identify the genetic basis of the features of particular pedigrees thus have an ideal \_\_\_\_\_ animal.

Option:-

- 1) Selected, excessive, selective, excellent



- 2) epidemic, pathologies, medication, diseases
- 3) ancestry, antecedents, descent, ancestors
- 4) lit, littering, litters, litter
- 5) hence, so, moreover, however
- 6) reprehensive, general, experimental, experiments

**Answer:** selective, pathologies, ancestry, litter, moreover, experimental

56) Spanish is spoken by more than 300 million people in over 20 countries and is rapidly becoming one of the most popular \_\_\_\_\_ for language learners around the world. A popular course for beginners, Suenos World Spanish is designed to \_\_\_\_\_ the varied needs of adult learners, \_\_\_\_\_ learning at home or in a class. From the very beginning it encourages you to develop your listening and speaking skills with confidence and provides many opportunities to practice reading in Spanish. Using the extensive \_\_\_\_\_ of media available, from the course book to the audio CDs or cassettes, to the popular accompanying television series and free online \_\_\_\_\_, Suenos World Spanish can help you reach the equivalent level of a first qualification, such as GCSE.

**Options:**

- 1) commodities, choices, records, improvements
- 2) record, meet, choose, satisfies
- 3) as, whether, nor, not
- 4) series, range, rate, wisdom
- 5) actions, activities, breaches, binge

**Answer:** choices, meet, whether, range, activities



57) Bhutan used to be one of the most isolated nations in the world. Developments including direct international flights, the Internet, mobile phone networks, and cable television have \_\_\_\_\_ modernized the urban areas of the country. Bhutan has \_\_\_\_\_ modernization with its ancient culture and traditions under the guiding philosophy of Gross National Happiness (GNH). Rampant \_\_\_\_\_ of the environment has been avoided. The government takes great \_\_\_\_\_ to preserve the nation's traditional culture, identity and the environment. In 2006, Business Week magazine rated Bhutan the happiest country in Asia and the eighth-happiest in the world, \_\_\_\_\_ a global survey conducted by the University of Leicester in 2006 called the "World Map of Happiness".

**Options:**

- 1) spontaneously, increasingly, contemporarily, mechanically
- 2) juggled, opted, balanced, altered
- 3) destruction, embodiment, vanity, execution
- 4) pride, measures, effects, allowance
- 5) submitting, citing, reviewing, proving

**Answer:** increasingly, balanced, destruction, measures, citing

58) There has been a great variety of critical approach to Shakespeare's work since his death. During the 17th and 18th century, Shakespeare was both admired and condemned. Since then, much of the adverse criticism has not been considered relevant, although certain issues \_\_\_\_\_ to interest critics throughout the years. For instance, charges against his moral propriety were made by Samuel Johnson in the 18th century and by George Bernard Shaw in the 20th. Early criticism was directed \_\_\_\_\_ at questions of form. Shakespeare was criticized for mixing comedy and tragedy and failing to



observe the unities of time and place \_\_\_\_\_ by the rules of classical drama. Dryden and Johnson were among the critics claiming that he had \_\_\_\_\_ the language with false wit, puns, and ambiguity. \_\_\_\_\_ some of his early plays might justly be charged with a frivolous use of such devices, 20th-century criticism has tended to praise their use in later plays as adding depth and resonance of meaning.

**Options:**

- 1) continuing, would have continued, have continued, being continuing
- 2) consecutively, primarily, hardly, solely
- 3) subscribed, documented, described, prescribed
- 4) versed, referred, transverse, corrupted
- 5) Since, Because, That, While

**Answer:** have continued, primarily, prescribed, corrupted, While

59) Coral reefs \_\_\_\_\_ more marine life than any other ocean ecosystem and are, not \_\_\_\_\_, a favorite pursuit for many divers. But as well as being physically and biologically spectacular, coral reefs also sustain the livelihoods of over half a billion people. What is more, this number is expected to \_\_\_\_\_ in coming decades while the area of high-quality reef is expected to halve. In combination with the very real threat of climate change, which could lead to increased seawater temperatures and ocean acidification, we start to arrive at some quite frightening scenarios.

**Options:**

- 1) curb, harvest, support, cultivate
- 2) seemingly, specifically, demandingly, surprisingly





3) appear, double, countdown, unravel

Answer: support, surprisingly, double

60) The Dag Hammarskjold Library at United Nations Headquarters in New York is a library designated to facilitate the work of the United Nations and \_\_\_\_\_ mainly on the needs of the UN Secretariat and diplomatic missions. Anyone with a valid United Nations Headquarters grounds \_\_\_\_\_, including specialized agencies, accredited media and NGO staff, is able to visit the library. Due to \_\_\_\_\_ constraints in place at the United Nations Headquarters complex, the library is not open to the general \_\_\_\_\_.

Options:

- 1) falls, depends, focuses, pelts
- 2) pass, cover, deposit, brochure
- 3) security, economic, scale, health
- 4) view, aim, public, category

Answer: focuses, pass, security, public

61) "The Plains Indians were people who did not like to live in one place. They liked to travel around and moved camps \_\_\_\_\_ three times a year. For this reason they lived in tepees, these were like big tents and were easy to put up and take down. These tepees were transported by horses." "Inside the tepee you would find all the items that people needed to live. The Plains Indians would decorate the insides with pictures, and store their weapons and food. The Indians would also have a fire \_\_\_\_\_ of the tepee to cook the food. The Sioux people \_\_\_\_\_ put buffalo skins on the floor to use as carpets. You would also find their beds." "In the Indian camp everyone had a job to do. The men had to hunt for food, and keep the families safe. The women had to cook



all the meals, make the clothes, \_\_\_\_\_ the children and whenever the camp moved they had to take down and put up the tepees."

Options:

- 2) at least, fewer than, at most, less than
- 3) on the top, in spite, in the middle, in terms
- 4) akin to, preferred, used to, have yet to
- 5) stand for, take care, look after, sit about

Answer: at least, in the middle, used to, look after

62) Steven Pinker, a cognitive psychologist best known for his book "The Language Instinct", has called music "auditory cheesecake, an exquisite confection crafted to tickle the sensitive spots of at least six of our mental faculties." If it vanished from our species, he said, "the rest of our lifestyle would be \_\_\_\_\_ unchanged." Others have argued that, on the \_\_\_\_\_, music, along with art and literature, is part of what makes people human; its absence would have a brutalizing effect. Philip Ball, a British science writer and an \_\_\_\_\_ music enthusiast, comes down somewhere in the middle. He says that music is \_\_\_\_\_ in our auditory, cognitive and motor functions. We have a music instinct as much as a language instinct, and could not rid ourselves of it if we tried.

Options:

- 1) rarely, cynically, nearing, virtually
- 2) end, contrary, whole, top
- 3) pretentious, presumptuous, ambitious, avid
- 4) enacted, installed, empowered, ingrained

Answer: virtually, contrary, avid, ingrained



63) The practice of giving storms personal names appears to have \_\_\_\_\_ with Clement Wragge, an Australian meteorologist who in the 1890s entertained himself by naming storms after women, mythical \_\_\_\_\_, and politicians that he didn't like. The modern system of using personal names developed during World War II, when meteorologists began using women's names – often those of wives or girlfriends – instead of \_\_\_\_\_ designations based on latitude and longitude. Short and quickly understood, names were easier to \_\_\_\_\_ over the radio and easier to keep straight if there was more than one storm in a given area. The system was \_\_\_\_\_ in 1953 when the National Weather Service put together an alphabetical list of female names to be used for storms in the Atlantic basin. Male names were added to the list in 1979 when women's groups pointed out the sexism of using only female names.

Options:

- 1) originated, laminated, contaminated, vaccinated
- 2) figures, figuration, figurative, configures
- 3) worrisome, cumbersome, awesome, wholesome
- 4) transmit, transform, transfuse, transect
- 5) rationalized, decentralized, formalized, immortalized

Answer: originated, figures, cumbersome, transmit, formalized

64) Don't expect a straightforward answer from Chanan Tigay about the \_\_\_\_\_ or even the existence of what was promoted as the earliest version of the fifth and final book of the Jewish Torah, known to Christians as the Book of Deuteronomy in the Old Testament. As an author who spent years trying to \_\_\_\_\_ a juicy mystery and get it down on paper, Tigay wants you to read his book, "The Lost Book of Moses: The Hunt for the World's Oldest Bible," to find the answer. But at a talk on Wednesday, the writer, journalist, and fellow



offered listeners an enticing peek, describing how he landed on the story of the mysterious manuscript and about his years trying to track \_\_\_\_\_ the document. From the author's description, it was a wild, Indiana Jones-type ride that included a competition to find the relic, false starts, dead ends, trips to faraway places, and an ultimate breakthrough close to home.

Options:

- 1) authenticity, area, imagination, scale
- 2) unravel, build, cross, envisage
- 3) down, against, out, of

Answer: authenticity, unravel, down

65) People are spending twice as much time online compared to 10 years ago, fueled by increasing use of tablets and smartphones. The biggest increase has been \_\_\_\_\_ young adults, with time spent online almost tripling from 10 hours and 24 minutes each week in 2005 to 27 hours and 36 minutes in 2014. In total, the average adult spends more than 20 hours online a week, which includes time spent on the internet at work. \_\_\_\_\_ the average person spends 2.5 hours every week 'online while on the move' – away from their home, work or place of study. This is a five-fold \_\_\_\_\_ from 2005, when the figure was just 30 minutes. Overall, the proportion of adults using the internet has risen by half – from six in ten in 2005 to almost nine in ten today, \_\_\_\_\_ to Ofcom's Media Use and Attitudes 2015 report, which questioned 1,890 adults aged 16 and over about their internet consumption habits.

Options:

- 1) within, along, between, among
- 2) However, Despite, Unless, Meanwhile
- 3) increase, magnitude, grid, space



4) according to, due to, controlled by, except for

**Answer:** among, Meanwhile, increase, according to

66) Umami was first identified in Japan, in 1908, when Dr. Kikunae Ikeda concluded that Kombu, a type of edible seaweed, had a different taste than most foods. He conducted \_\_\_\_\_ that found that the high concentration of glutamate in Kombu was what made it so tasty. From there, he crystallized monosodium glutamate (MSG), the seasoning that would become \_\_\_\_\_ the world over. Decades later Umami became scientifically defined as one of the five individual tastes sensed by receptors on the \_\_\_\_\_. Then in 1996, a team of University of Miami researchers studying taste perception made another breakthrough. They discovered separate taste receptor cells in the tongue for detecting Umami. Before then, the concept was uncharted. 'Up until our research, the \_\_\_\_\_ wisdom in the scientific community was that Umami was not a separate sense. It was just a combination of the other four qualities (salty, sweet, bitter, sour)', explained Dr. Stephen Roper, the University of Miami physiology and biophysics professor who helped zero in on the taste along with Nirupa Chaudhari, the team's lead researcher.

**Options:**

- 1) attempts, experiments, contests, experiences
- 2) exported, exclusive, popular, spread
- 3) jaws, mouth, tongue, fingers
- 4) erroneous, predominant, insignificant, important

**Answer:** experiments, popular, tongue, predominant

67) A mini helicopter modelled on flying tree seeds could soon be flying overhead. Evan Ulrich and colleagues at the University of Maryland in College Park



\_\_\_\_\_ the biological world for inspiration to build a scaled-down helicopter that could mimic the properties of full-size aircraft. The complex \_\_\_\_\_ of full-size helicopters gets less efficient when shrunk, meaning that standard mini helicopters expend most of their power simply fighting to stay stable in the air. The researchers realized that a simpler aircraft designed to stay stable passively would use much less power and reduce manufacturing costs to boot. It turns out that nature \_\_\_\_\_ them to it. The seeds of trees such as the maple have a single-blade structure that \_\_\_\_\_ them to fly far away and drift safely to the ground. These seeds, known as samaras, need no engine to \_\_\_\_\_ through the air, thanks to a process called autorotation. By analyzing the behavior of the samara with high-speed cameras, Ulrich and his team were able to copy its design.

Options:

- 1) turned to, turned for, turned in, turned off
- 2) overhaul, gauge, imagination, design
- 3) has beaten, was beaten, had beaten, beaten
- 4) had allowed, allowed, allows, allowing
- 5) spin, fluctuate, drift, bob

Answer: turned to, design, had beaten, allows, spin

68) To better understand selfies and how people form their identities online, the researchers combed through 2.5 million selfie posts \_\_\_\_\_ Instagram to determine what kinds of identity statements people make by taking and sharing the photos. Nearly 52 percent of all selfies \_\_\_\_\_ the appearance category: pictures of people showing off their make-up, clothes, lips, etc. Pics about looks were two times more popular than the other 14 categories \_\_\_\_\_. \_\_\_\_\_ appearances, social selfies with friends, loved ones, and





pets were the most common (14 percent). Then \_\_\_\_\_ ethnicity pics (13 percent), travel (7 percent), and health and fitness (5 percent). The researchers noted that the prevalence of ethnicity selfies (selfies about a person's ethnicity, nationality or country of origin) is an indication that people are proud of their backgrounds. They also found that most selfies are solo pictures, \_\_\_\_\_ than taken with a group. \_\_\_\_\_, an overwhelming 57 percent of selfies on Instagram were posted by the 18-35-year-old crowd, something the researchers say isn't too surprising \_\_\_\_\_ the demographics of the social media platform. The under-18 age group posted about 30 percent of selfies.

**Options:**

- 1) of, to, above, on
- 2) summed up, broke down, fell into, focused on
- 3) constrained, confined, combined, unconfined
- 4) Regarding, Unless, After, Against
- 5) let, were, came, did
- 6) less, other, rather, most
- 7) Along with, Although, Overall, Moreover
- 8) claiming, supposing, considering, imagining

**Answer:** on, fell into, combined, After, came, rather, Overall, considering

- 69) \_\_\_\_\_ the past two decades around a third of the world's mangrove swamps have been \_\_\_\_\_ for human use, with many turned into valuable shrimp farms. In 2007 an economic study of such shrimp farms in Thailand showed that the commercial profits per hectare were \$9,632. If that were the only \_\_\_\_\_, conversion would seem an excellent idea. However, proper \_\_\_\_\_ shows that for each hectare government subsidies formed \$8,412 of



this figure and there were costs, too: \$1,000 for pollution and \$12,392 for losses to ecosystem services. These \_\_\_\_\_ damage to the supply of foods and medicines that people had taken from the forest, the loss of habitats for fish, and less buffering against storms. And because a given shrimp farm only stays \_\_\_\_\_ for three or four years, there was the additional cost of restoring them afterwards.

**Options:**

- 1) By, With, To, Over
- 2) deserved, inserted, conserved, converted
- 3) index, element, choice, factor
- 4) accounting, percentage, aggregation, division
- 5) comprised, uneven, neglected, augmented
- 6) productive, interactive, distinctive, collective

**Answer:** Over, converted, factor, accounting, comprised, productive

70) Green spaces contribute significantly to a \_\_\_\_\_ in soil and aerial temperatures during spells of hot weather, so contributing to human wellbeing. In the garden \_\_\_\_\_, there is, however, little information as to what extent various types of plants \_\_\_\_\_ in their cooling potential and how certain planting combinations may maximize cooling under a scenario of \_\_\_\_\_ rainfall and minimal water inputs.

**Options:**

- 1) genesis, conclusion, purification, reduction
- 2) extent, level, context, volume
- 3) confer, differ, coincide, defer



4) total, low, parallel, partial

Answer: reduction, context, differ, low

71) She transformed beauty into big business by cultivating classy sales methods and giving away samples. Leonard Lauder, chief executive of the company his mother founded, says she always thought she 'was growing a nice little business.' And that it is. A little business that \_\_\_\_\_ 45% of the cosmetics market in U.S. department stores. A little business that sells in 118 countries and last year grew to be \$3.6 billion big in sales. The Lauder family's shares are worth more than \$6 billion. But early on, there wasn't a burgeoning business; there weren't houses in New York, Palm Beach, or the south of France. It is said that at one point there was one person to answer the telephones who \_\_\_\_\_ her voice to become the shipping or billing department as needed. You more or less know the Estee Lauder story because it's a chapter from the book of American business folklore. In short, Josephine Esther Mentzer, daughter of immigrants, lived above her father's hardware store in Corona, a section of Queens in New York City. She started her \_\_\_\_\_ by selling skin creams concocted by her uncle, a chemist, in beauty shops, beach clubs and resorts. No doubt the potions were good - Estee Lauder was a quality fanatic - but the sales lady was better. Much better. And she simply outworked everyone else in the cosmetics industry. She \_\_\_\_\_ the bosses of New York City department stores until she got some counter space at Saks Fifth Avenue in 1948. And once in that space, she utilized a personal selling approach that proved as \_\_\_\_\_ as the promise of her skin regimens and perfumes.

Options:

- 1) has, controls, makes, maintains
- 2) switched, changed, raised, used



- 3) emphasis, institute, companion, enterprise
- 4) stated, bridged, stalked, heaved
- 5) potent, collective, potential, expensive

**Answer:** controls, changed, enterprise, stalked, potent

72) From the earliest civilisations, plants and animals have been portrayed as a means of understanding and recording the potential uses, such as their economic and healing properties. From the first illustrated \_\_\_\_\_ of medicinal plants, De Materia Medica by Dioscorides, in the first century through to the late fourteenth century the illustration of plants and animals changed very little. Woodcuts in instructional manuals and herbals were often repeatedly copied over the centuries, resulting in a loss of definition and accuracy so that they became little more than stylized decoration. With the growing \_\_\_\_\_ of copperplate engravings, the traditional use of woodcuts declined and the representation of plants and animals became more accurate. Then, with the \_\_\_\_\_ of artists such as Albrecht Durer and Leonardo Da Vinci, naturalists such as Otto Brunfels, Leonhard Fuchs in botany and Conrad Gesner and Ulisse Aldrovandi in zoology, nature began to be depicted in a more realistic style. Individual living plants or animals \_\_\_\_\_ directly and their likeness rendered onto paper or vellum.

**Options:**

- 1) catalogue, calculation, formation, figuration
- 2) popularity, expectation, singularity, resilience
- 3) emergence, descent, havoc, omniscience
- 4) observed, observe, had observed, were observed

**Answer:** catalogue, popularity, emergence, were observed



73) Timing is important for revision. Have you noticed that during the school day you get times when you just don't care any longer? I don't mean the lessons you don't like, but the ones you usually find OK, but on some occasions, you just can't be bothered with it. You \_\_\_\_\_ have other things on your mind, be tired, restless or looking forward to what comes next. Whatever the reason, that particular lesson doesn't get 100 percent \_\_\_\_\_ from you. The same is true of revision. Your mental and physical \_\_\_\_\_ are important. If you try to revise when you are tired or totally occupied with something else, your revision will be inefficient and just about worthless. If you approach it feeling fresh, alert and happy, it will be so much easier, and you will learn more, faster. However, if you make no plans and just slip in a little bit of revision when you feel like it, you probably won't do much revision! You need a revision timetable, so you don't keep \_\_\_\_\_.

**Options:**

- 1) may, never, do, hardly
- 2) effort, afford, affect, effect
- 3) shortcomings, concerns, attitudes, appearances
- 4) stopping, putting it off, pushing, putting out

**Answer:** may, effort, attitudes, putting it off

74) The Petrified Forest is home to some of the most impressive fossils ever found and more are being discovered each year as continuing erosion is \_\_\_\_\_ new evidence. Fossils found here show the Forest was once a tropical region, \_\_\_\_\_ with towering trees and extraordinary creatures. More than 150 different species of fossilized plants have been discovered by paleontologists and evidence \_\_\_\_\_ ancient native people who inhabited this region about 10,000 years ago has been \_\_\_\_\_ by archeologists.



Options:

- 1) exposing, expanding, explaining, expecting
- 2) connected, filled, restored, treated
- 3) indicating, discharging, thinking, assume
- 4) deducted, rejected, confirmed, predicted

Answer: exposing, filled, indicating, confirmed

75) The exponential growth of the internet was \_\_\_\_\_, in the 1990s, as revolutionizing the production and \_\_\_\_\_ of information. Some people saw the internet as a means of \_\_\_\_\_ access to knowledge. For people \_\_\_\_\_ with African development, it seemed to offer the possibility of \_\_\_\_\_ over the technology gap that \_\_\_\_\_ Africa from advanced industrialized countries.

Options:

- 1) created, innovated, utilized, heralded
- 2) dissemination, broadcast, sending, process
- 3) democratizing, developing, accumulating, stabilizing
- 4) informed, confirmed, concerned, correlated
- 5) copying, leapfrogging, heading, sweeping
- 6) separates, identifies, signifies, defines

Answer: heralded, dissemination, democratizing, concerned, leapfrogging, separates

76) Seminars are not designed to be mini-lectures. Their educational \_\_\_\_\_ is to provide an opportunity for you to discuss interesting and/or difficult aspects of the course. This is founded on the \_\_\_\_\_ that it is only by actively trying to use the knowledge that you have acquired from lectures and texts that you can achieve an adequate understanding of the subject. If you do not





understand a point, it is highly \_\_\_\_\_ that you will be the only person in the group in that position; you will invariably be undertaking a \_\_\_\_\_ for the entire group if you come to the seminar equipped with questions on matters which you feel you did not fully understand. The seminar is to \_\_\_\_\_ discussion.

**Options:**

- 1) result, team, role, regulation
- 2) awareness, information, consolation, assumption
- 3) similarly, likely, possible, unlikely
- 4) service, study, reservation, education
- 5) stir, provoke, rinse, commit

**Answer:** role, assumption, unlikely, service, provoke

77) Wind is air moving around. Some winds can move \_\_\_\_\_ fast as a racing car, over 100 miles an \_\_\_\_\_. Winds can travel around the world. Wind can make you feel cold because you lose heat from your body \_\_\_\_\_ when it is windy. Weather forecasters need to \_\_\_\_\_ the speed and direction of the wind. The strength of wind is measured using the Beaufort scale from wind force when there is no wind, to wind force 12 which can damage houses and buildings and is called hurricane force.

**Options:**

- 1) to, for, in, as
- 2) hour, second, minute, micro second
- 3) faster, slower, higher, lower
- 4) overshoot, know, check, fix

**Answer:** as, hour, faster, know



78) Having tracked down research that is \_\_\_\_\_ to your area of interest, the next task is to actually make sense of that research. This section is intended to show you how to be critical of the research you \_\_\_\_\_ and how to check that the \_\_\_\_\_ is credible and represented appropriately. Unfortunately this means discussing the ways in which research findings may be misrepresented.

Options:

- 1) relevant, important, useful, referred
- 2) are monitoring, are finding, are reviewing, are discovering
- 3) support, invention, statement, evidence

Answer: relevant, are reviewing, evidence

79) Rudman looks at how a poor understanding of Maths has led historians to false conclusions about the Mathematical sophistication of early societies. Rudman's final observation-that ancient Greece \_\_\_\_\_ unrivaled progress in the subject while \_\_\_\_\_ to teach it at school-leads to a \_\_\_\_\_ punchline : Mathematics could be better learnt after we \_\_\_\_\_ school.

Options:

- 1) marked, enjoyed, reviewed, expected
- 2) waiting, hesitating, hoping, failing
- 3) radical, rational, radish, radius
- 4) enter, graduate, leave, go

Answer: enjoyed, failing, radical, leave

80) With the increase in women's \_\_\_\_\_ in the labour force, many mothers have less time \_\_\_\_\_ to undertake domestic activities. At the same time, there has been increasing \_\_\_\_\_ that the father's role and \_\_\_\_\_ with a child is important. A father can have many \_\_\_\_\_ in the family, ranging from income



provider to teacher, carer, playmate and role model. Therefore, balancing paid work and family responsibilities can be an important issue for both fathers and mothers in families.

Options:

- 1) anticipation, substitution, participation, definition
- 2) available, related, consumable, useful
- 3) recognition, discrimination, resolution, recreation
- 4) scholarship, relationship, worship, employment
- 5) members, players, workers, roles, recognition,

Answer: participation, available, relationship, roles

81) Music is an important part of our lives. We connect and interact with it daily and use it as a way of projecting our self-identities to the people around us. The music we enjoy - whether it's country or classical, rock n' roll or rap - \_\_\_\_\_ who we are. But where did music, at its core, first come from? It's a puzzling question that may not have a definitive answer. One \_\_\_\_\_ researcher, however, has proposed that the key to understanding the origin of music is nestled snugly in the loving bond between mother and child. In a lecture at the University of Melbourne, Richard Parncutt, an Australian-born professor of systematic musicology, endorsed the idea that music originally spawned from 'motherese' -- the playful voices mothers \_\_\_\_\_ when speaking to infants and toddlers. As the theory goes, increased human brain sizes caused by evolutionary changes occurring between one and 2,000,000 years ago resulted in earlier births, more fragile infants and a \_\_\_\_\_ need for stronger relationships between mothers and their newborn babies. According to Parncutt, who is based at the University of Graz in Austria, 'motherese'



arose as a way to strengthen this maternal bond and to help \_\_\_\_\_ an infant's survival.

Options:

- 1) means, convinces, shows, reflects
- 2) freelance, best, unanimous, leading
- 3) adapt, adopt, sing, forge
- 4) clinical, chronic, critical, fallow
- 5) confirm, improve, ensure, enquire

Answer: reflects, leading, adopt, critical, ensure

82) Everybody needs fresh water. \_\_\_\_\_ water people, animals and plants cannot live. Although a few plants and animals can make do with saltwater, all humans need a constant supply of fresh water if they are to stay \_\_\_\_\_ and healthy. Of the total supply of water on the Earth, only about 3 percent of it is fresh, and most of that is stored as ice and snow at the poles, or is so \_\_\_\_\_ under the surface of the Earth that we cannot get to it. Despite so much of the water being out of reach, we still have a million cubic miles of it that we \_\_\_\_\_ use. That's about 4,300,000 cubic kilometers of fresh water to share out between most of the plants, animals and people on the planet.

Options:

- 1) Without, Despite, As, With
- 2) excited, here, up, fit
- 3) wide, hard, deep, common
- 4) can, won't, don't, cannot

Answer: Without, fit, deep, can



83) Colorful poison frogs in the Amazon owe their great \_\_\_\_\_ to ancestors that leapt into the region from the Andes Mountains several times during the last 10 million years, a new study from The University of Texas at Austin suggests. This is the first study to show that the Andes have been a \_\_\_\_\_ of diversity for the Amazon basin, one of the largest \_\_\_\_\_ of biological diversity on Earth. The finding runs \_\_\_\_\_ to the \_\_\_\_\_ that Amazonian diversity is the \_\_\_\_\_ of evolution only within the tropical forest itself. " Basically, the Amazon basin is 'melting pot' for South American frogs," says graduate student Juan Santos, lead author of the study. "Poison frogs there have come from multiple places of \_\_\_\_\_, notably the Andes Mountains, over many millions of years. We have shown that you cannot understand Amazonian biodiversity by looking only in the basin. Adjacent regions have played a major role."

Options:

- 1) division, diversity, diversification, diversify
- 2) important, major source, essential, special
- 3) pool, reservoirs, tank, territories
- 4) along, counter, through, thoroughly
- 5) myth, idea, situation, condition
- 6) link, result, trigger, usher
- 7) living, life, origin, species

Answer: diversity, major source, reservoirs, counter, idea, result, origin

84) Traditionally, mass-communications research has conceptualized the process of communication in terms of a circulation circuit or loop. This \_\_\_\_\_ has been criticized for its linearity -- sender/message/receiver -- for its concentration on the level of message exchange and for the absence of a structured conception of the different moments as a complex structure of



relations. But it is also \_\_\_\_\_ to think of this process in terms of a structure produced and sustained through the articulation of linked \_\_\_\_\_ distinctive moments production, circulation, distribution/consumption, reproduction. This would be to think of the \_\_\_\_\_ as a ' complex structure in dominance' , sustained through the articulation of connected practices, each of which, however, retains its distinctiveness and has its own \_\_\_\_\_ modality, its own forms and conditions of existence.

Options:

- 1) medal, modal, model, moral
- 2) useful, unbelievable, impossible, meaningless
- 3) if, and, but, or
- 4) works, practice, production, process
- 5) general, real, common, specific

Answer: model, useful, but, process, specific

85) The APS supports the development of an Australian curriculum for psychological science. The APS Division of Psychological Research, Education and Training, in \_\_\_\_\_ with teacher and curriculum representatives from every State and Territory in Australia, \_\_\_\_\_ a proposed framework for senior secondary school studies in psychological science. This framework \_\_\_\_\_ the current senior science curricula that were developed and published by the Australian Curriculum, Assessment and Reporting Authority. The APS hopes that this framework will \_\_\_\_\_ a dialogue between educators and their local curriculum authority, with the aim of working towards a more \_\_\_\_\_ approach to the teaching of psychological science at secondary school level and optimizing the preparation for students going on to





undergraduate psychology studies at university, as well as the effective use of psychological principles in everyday life.

Options:

- 1) confidence, consultation, consolation, condolence
- 2) has been developed, has developed, had been developing, have developed
- 3) has modelled on, to model on, is modelled on, modelled on
- 4) fertilize, facilitate, fascinate, fabricate
- 5) conjunctive, constituent, consistent, consequent

Answer: consultation, has developed, is modelled on, facilitate, consistent

86) A good story may be given a bad title by its author, and so started toward failure. Novices are peculiarly \_\_\_\_\_ to this fault, usually through \_\_\_\_\_ themselves to be too easily satisfied. They go to \_\_\_\_\_ pains to make the story itself fresh and individual, and then cap it with a \_\_\_\_\_ phrase that is worse than no title at all. A good title is \_\_\_\_\_, specific, attractive, new, and short. A title is apt if it is an outgrowth of the plot—a text, as I have said. It stands definitely for that particular story, and gives a suggestion of what is to come—but only a suggestion, lest it should anticipate the denouement and so \_\_\_\_\_ the curiosity of the reader too soon.

Options:

- 1) able, responsible, liable, possible
- 2) disabling, asking, persuading, allowing
- 3) stagnant, faint, vague, infinite
- 4) misleading, invisible, distinctive, commonplace
- 5) void, default, fussy, apt
- 6) intensify, multiply, satisfy, notify



Answer: liable, allowing, infinite, commonplace, apt, satisfy

87) The purpose of this paper is to consider the claim, often made, that computer simulation exercises provide an excellent source of speaking practice. In so doing I shall first consider the properties of computer simulations from a theoretical \_\_\_\_\_, then describe the experience of \_\_\_\_\_ a particular simulation with a general EFL class. On the basis of this experience, and of some very straightforward pedagogical considerations, I shall argue that the claim is justified, \_\_\_\_\_ to a very important caveat: computer simulations can form the basis of excellent speaking exercises, provided you do not expect the computer to do all the work. Put in another way, many computer simulations only \_\_\_\_\_ their full potential as language exercises if they are \_\_\_\_\_ into a larger, planned, teacher-managed activity.

Options:

- 1) shape or form, state of mind, point of view, status quo
- 2) used, being used, using, having been used
- 3) subject, reject, expect, inject
- 4) contain, attain, retain, remain
- 5) separated, included, participated, integrated

Answer: point of view, using, subject, attain, integrated

88) Increasing the amount of sleep a person gets has been linked to eating fewer sugary foods, and making better nutritional choices. Wendy Hall, at King's College London, and her team \_\_\_\_\_ 42 volunteers to help them investigate the link between sleep and diet. Half the participants were given advice on how to get more sleep- such as avoiding caffeine before bed, establishing a relaxing \_\_\_\_\_, and trying not to go to bed too full or hungry. This advice



was intended to help them boost the amount of sleep they each got by 90 minutes a night. The remaining 21 volunteers received no such advice. The team found that, of those who were given the advice, 86 per cent spent more time in bed, and around half slept for longer than they used to. These \_\_\_\_\_ sleep patterns were associated with an average reduction in the intake of free sugars of 10 grams a day. People who were getting more sleep also ate fewer carbohydrates. There were no significant changes in diet in the control group.

Option:

- 1) collided, enlisted, summarized, indicted
- 2) routine, muscle, tissue, joint
- 3) exercised, decisive, inhaled, extended

Answer: enlisted, routine, extended

- 89) People who live in dense urban areas, particularly those with closely packed apartments, are more likely to experience loneliness and \_\_\_\_\_, a large-scale study of UK cities has found. Chris Webster at the University of Hong Kong and his colleagues analyzed health data from nearly 406,000 people in 22 UK cities held by the UK Biobank and compared it with detailed data of their environment, such as their \_\_\_\_\_ to busy roads and green spaces. The team found that people's self-reported loneliness increased by 2.8 per cent for every additional 1000 housing units within 1 kilometer of their home, while their self-reported social isolation increased by 11.4 per cent. The researchers controlled for factors including age, health and socioeconomic status, finding that the effects were more \_\_\_\_\_ in men and retirees. Compared with their \_\_\_\_\_ living in the lowest residential densities, men in the highest densities were 23.5 per cent more likely to report loneliness, while retirees in areas with



the densest housing were 17.4 per cent more likely to do so.

Option:

- 1) correlation, legislation, isolation, relation
- 2) family, proximity, business, knowledge
- 3) pronounced, denounced, announced, renounced
- 4) counterparts, disparts, imparts, underparts

Answer: isolation, proximity, pronounced, counterparts

90) "Age is an issue of mind over matter. If you don't mind, it doesn't matter." This \_\_\_\_\_ of wisdom, often attributed to Mark Twain, has been turned into many an \_\_\_\_\_ internet meme over the years. As a 51-year-old who is starting to feel the gathering momentum of the inevitable slide, it strikes me as little more than a platitude that makes people feel better about getting old. But according to a growing body of research, there is more to it than that. Subjective age - how old we feel - has a very real impact on health and \_\_\_\_\_. People who feel younger than their years often actually are, in terms of how long they have left to live. The question of what controls our subjective age, and whether we can change it, has always been tricky to \_\_\_\_\_ scientifically.

Option:

- 1) repository, pile, nugget, lumber
- 2) inspirational, invalid, unconventional, instrumental
- 3) subjectivity, sensitivity, longevity, objectivity
- 4) test, produce, address, measure

Answer: nugget, inspirational, longevity, address



91) When pain lasts for three months or longer, it is classified as chronic, a condition that affects more than 30 per cent of the world's population. Chronic pain was long believed to be a stubborn version of \_\_\_\_\_ pain - which passes in less than three months once the damage is healed - and it was treated in much the same way. Yet an increasing body of research has led doctors to believe that chronic pain should be treated as a disease in its own right, rather than an \_\_\_\_\_ symptom of tissue damage or physical trauma. This could have major \_\_\_\_\_ for the treatment of lasting pain, together with the way we prescribe addictive opioids. Recent research has revealed that in some people, chronic pain is a problem with the brain. An injury can lead to pain that \_\_\_\_\_ after the tissue has recovered because the brain has rewired itself and learned to send pain signals, despite there no longer being a reason. Known as central sensitization, it is as if the volume has been turned up on pain.

Option:

- 1) accurate, acumen, acute, prosecute
- 2) endurance, endurable, endured, enduring
- 3) improvisations, importations, implications, supplications
- 4) demands, persists, perceives, tastes

Answer: acute, enduring, implications, persists

92) Eco-anxiety is already causing people to lose sleep over climate change. Now, a global study has found that a warming planet is also affecting how long people sleep, and the problem will get significantly worse this century even if humanity manages to \_\_\_\_\_ in its carbon emissions. Our measurements of the impact of above-average night temperatures on sleep have previously been limited by being \_\_\_\_\_ to single countries, lab studies



or notoriously unreliable self-reporting of sleep. To glean a better real-world picture, Kelton Minor at the University of Copenhagen, Denmark, took data from sleep-tracking wristbands used by 48,000 people in 68 countries between 2015 and 2017. He and his colleagues then \_\_\_\_\_ the sleep data with local weather data, revealing that unusually hot nights are causing people to fall asleep later, rise earlier and sleep less.

**Option:**

- 1) join, rein, gain, vein
- 2) decided, expected, required, confined
- 3) contained, controlled, paired, accessed

**Answer:** rein, confined, paired

93) Do you want to know roughly how much longer you might live if you permanently \_\_\_\_\_ a healthier diet? The "Food for healthy life" website can give you an idea - and if you're under 60 and eat a typical Western diet, the answer could be around a decade or more on average. The website is based on data from hundreds of studies. "The estimated life \_\_\_\_\_ is mainly due to a reduction in the risk of heart disease, diabetes and cancer," says Lars Fadnes at the University of Bergen in Norway. His team started with recent meta-analyses of the effect of eating various amounts of particular food types, such as fruits. These findings were combined with data on global mortality and what people currently eat to estimate the impact of a permanent change in diet. The highest estimates of lifespan extension are based on a diet designed to \_\_\_\_\_ the health benefits. This optimized diet involves eating no red or \_\_\_\_\_ meat, drinking no sugar-sweetened beverages, reducing dairy and egg consumption, and eating more legumes,





whole grains and nuts.

Option:

- 1) accepted, scripted, adapted, adopted
- 2) insurance, policy, extension, style
- 3) maximize, compromise, idolize, franchise
- 4) assessed, recessed, accessed, processed

Answer: adopted, extension, maximize, processed

94) How can you get your business to reduce waste and help the environment, yet at the same time reduce costs and increase customer \_\_\_\_\_? It sounds like a dream, but it's undoubtedly possible through joining the circular economy in both discrete and process manufacturing. The circular economy is a system that looks to \_\_\_\_\_ waste and the continual use of resources. As opposed to a traditional linear economy in which we make, consume, and throw away, moving circular is all about creating a circle where we design out waste and pollution by keeping products and materials in use for as long as possible and finding ways to create new resources from what we \_\_\_\_\_. With the circular economy, we're extracting the maximum value from products while in use, then recover and regenerate products and materials at the end of each service life. The circular economy puts a big focus on services, maintenance, and \_\_\_\_\_ of assets. However, as resources become more and more scarce, manufacturers and distributors in the circular economy are introducing additional value-added services.

Option:

- 1) reflection, satisfaction, confection, construction
- 2) subordinate, eliminate, disseminate, pomegranate
- 3) disconcert, displace, dispossess, discard



4) embarrassment, enlightenment, establishment, refurbishment

Answer: satisfaction, eliminate, discard, refurbishment

95) The International Monetary Fund (IMF), headquartered in Washington, DC, is \_\_\_\_\_ of 189 member countries. The IMF works to foster global growth and economic stability by providing policy, advice, and financing to its members. It also works with developing nations to help them reduce poverty and achieve macroeconomic \_\_\_\_\_. It now plays a central role in the management of balance-of-payments difficulties and international financial crises. When the IMF was founded, its primary functions were to provide short-term capital to \_\_\_\_\_ the balance of payments and to oversee fixed-exchange-rate arrangements between countries, thus helping national governments manage their exchange rates and prioritize economic growth. This \_\_\_\_\_ was meant to prevent the spread of international economic crises. The IMF mission changed slightly after 1971, and floating currency exchange rates made it harder to predict the economic stability of a region. Today the IMF plays an active role in and managing economic policy around the world.

Option:

- 1) presented, divided, apprised, comprised
- 2) stability, utility, docility, nasality
- 3) mobilize, prohibit, inhabit, aid
- 4) substance, circumstance, instance, assistance

Answer: comprised, stability, aid, assistance

96) You open your lunch box to discover that the lovely apple you sliced this morning now appears unsightly and brown. Why does this happen? This \_\_\_\_\_ phenomenon is actually due to a chain of biochemical reactions



known as "enzymatic browning." When an apple is injured (or cut into pieces), the plant tissue is exposed to oxygen. This \_\_\_\_\_ an enzyme known as polyphenol oxidase (PPO) to oxidize polyphenols in the apple's flesh. This results in new chemicals (o-quinones), which then react with amino acids to produce brown-colored melanins. Different apple varieties contain different amounts of both the initial enzyme and the polyphenols, and thus they brown at different rates. Enzymatic browning is not \_\_\_\_\_ to apples; pears, bananas, and eggplants also turn brown fairly quickly when cut. Enzymatic browning is also responsible for the desirable dark color of prunes, coffee, black tea, and cocoa. Scientists are working to genetically \_\_\_\_\_ apples that do not produce the PPO enzyme, so perhaps brown apples will someday be a thing of the past.

Option:

- 1) unappetizing, galvanizing, anthologizing, characterizing
- 2) triggers, simplifies, fosters, constricts
- 3) contended, related, profiled, unique
- 4) resignate, envelope, dilute, engineer

Answer: unappetizing, triggers, unique, engineer

- 97) You may have heard that you can get water from a cactus if you are ever lost and \_\_\_\_\_ in a desert. Does it sound like a nice survival tip to store away, but is it really that easy? It turns out that a cactus is not actually a spine-covered basin of fresh water. Such a plant would not last long in an \_\_\_\_\_ habitat filled with thirsty animals. Water is truly a precious resource in a desert, so, in addition to their \_\_\_\_\_ spines, most cactus species further protect their spongy flesh with acids and potent alkaloids. These chemicals are usually too acrid for most humans to tolerate and are \_\_\_\_\_ on the kidneys



if ingested. The flesh of some cactus species can also cause vomiting, diarrhea, or temporary paralysis none of which is \_\_\_\_\_ to your survival in an emergency situation. Cactus fruits are a better bet, though many are also unpalatable if eaten raw.

**Option:**

- 1) overrated, concentrated, dehydrated, saturated
- 2) acrid, arid, hybrid, avid
- 3) liquidating, invalidating, intimidating, elucidating
- 4) detoxing, fixing, taxing, affixing
- 5) coercive, conducive, enhancive, seductive

**Answer:** dehydrated, arid, intimidating, taxing, conducive

- 98) When potatoes are stored in a warm bright place, the tubers detect that they might be in a suitable growing location and prepare to sprout. Chlorophyll production increases, which slowly tints the peel, and eventually some of the flesh, green. While chlorophyll is a harmless chemical, its x \_\_\_\_\_ in potatoes indicates that the tubers have also increased their production of a glycoalkaloid known as solanine. Solanine protects potatoes and other plants in the family Solanaceae from herbivory and serves to \_\_\_\_\_ the sprouting spud from hungry animal mouths. Solanine is considered a neurotoxin, and \_\_\_\_\_ by humans can cause nausea and headaches and can lead to serious neurological problems and even death if enough is consumed. A recent study suggested that a 16-oz (450-gram) fully green potato is enough to make a small adult ill. Cooking does not destroy the solanine toxin, so the green parts of potatoes should be \_\_\_\_\_ entirely. Green potatoes should especially not be served to children, whose smaller bodies make them more



susceptible to poisoning.

Option:

- 1) omnipresence, presence, absence, essence
- 2) preserve, deserve, conserve, reserve
- 3) ingestion, congestion, suggestion, predilection
- 4) regrouped, retired, removed, reformed

Answer: presence, preserve, ingestion, removed

99) In 1492, Italian sailor Christopher Columbus; sent by Spain, arrived in the New World. This was a dramatic event for both the people who already lived in the Americas and for Europe. Native Americans fell \_\_\_\_\_ to an immense plague of European diseases which weakened them in the face of armies led by Spanish conquistadors. Within a few decades, Spain conquered the Caribbean, the Aztec Empire of modern-day Mexico, and the Inca Empire stretching across the Andes. Native Americans were \_\_\_\_\_ and forced to work on plantations and mines. As a result, Spain grew rich and powerful. The other countries of Europe looked upon the success of Spain with envy. They quickly hired explorers of their own and sent them west in search of societies to conquer, gold to snatch, and perhaps even a route to Asia for a \_\_\_\_\_ trade connection.

Option:

- 1) back, migration, victim, vacation
- 2) enclosed, engaged, enslaved, encountered
- 3) prosperous, porous, phosphorus, courteous

Answer: victim, enslaved, prosperous



100) When considering what makes us who we are, it is easy to think our memories are the answer. Aside from the physical traces of the passing of time on your body, your \_\_\_\_\_ are perhaps the only thing that links the you sitting here today to the many yous from every previous day of your existence. Without them, your relationships would mean nothing, not to x \_\_\_\_\_ your knowledge, tastes, and your many adventures. It might be no \_\_\_\_\_ to say your memories are the essence of you. With this in mind, it is not surprising that much of the burgeoning field of neuroscience has turned its efforts to understanding what makes a memory and how to keep hold of it. Perhaps the most \_\_\_\_\_ idea to come from recent discoveries is a re-imagining of the dark side of memory - forgetting.

Option:

- 1) collections, maledictions, recollections, conjunctions
- 2) carry, mention, remain, take
- 3) transfiguration, exaggeration, generation, consideration
- 4) saluting, intriguing, indicting, corrupting

Answer: recollections, mention, exaggeration, intriguing

101) Microplastics in recent years have taken front and center as a massive environmental problem \_\_\_\_\_ havoc on ecosystems in even the most remote areas of the planet. In fact, since plastic is not decomposable, environmental scientists have been scrambling to come up with ways to \_\_\_\_\_ the planet of microplastics and keep our waterways clean. And they have successfully used egg whites to create a lightweight and porous aerogel material that can be used in several ways, including water filtration, energy storage, and sound, as well as insulation. The structure has the ability to remove both salt and microplastics from seawater in remarkable ways, doing





so with 98% and 99% efficiency, \_\_\_\_\_. And the experiments were done with regular store-bought eggs, which means that future work can be done in a cost-effective way. The only issue with this is that there would be such a large demand for eggs that it could possibly outcompete the food industry. Once this is tackled, using these structures will work \_\_\_\_\_ as an effective, energy-efficient, and cost-effective method.

Option:

- 1) freaking, wreaking, breaking, creaking
- 2) study, rid, dominate, surround
- 3) respectively, distributively, interrogatively, retrospectively
- 4) monthly, unearthly, smoothly, earthly

Answer: wreaking, rid, respectively, smoothly

102) A of researchers claim to have created a biodegradable and \_\_\_\_\_ alternative to both glass and plastic in the form of "transparent wood," a futuristic new material that could greatly reduce the ecological impact of more environmentally-unfriendly building materials. The material, which was invented by German scientist Siegfried Fink in 1992, has seen several changes and improvements over the intervening years. It's made by first removing a naturally occurring polymer called lignin from wood and \_\_\_\_\_ it with specially-designed, transparent plastic materials, Plastics are used as a substitute for glass which is (naturally) fragile," Dhar said. "However, transparent wood is an even better alternative from an ecological \_\_\_\_\_ as observed in our life-cycle analysis. In recent times transparent wood has been used in construction, energy storage, flexible electronics and packaging applications. But it won't be replacing glass and plastic in their entirety anytime soon because scientists have yet to figure out how to \_\_\_\_\_ up



production of the material in an economical way.

Option:

- 1) gradable, unapproachable, knowledgeable, renewable
- 2) reciprocating, replacing, reverberating, resisting
- 3) respective, design, perspective, runaway
- 4) scale, mount, tailor, make

Answer: renewable, replacing, perspective, scale

103) There are soon to be 8 billion of us and counting. Yet while the world's population is still growing fast overall, in many countries, the numbers are \_\_\_\_\_ or will do soon. The population of China will begin to fall soon and could halve by 2100. India's will peak around 2050. And the US population would fall from the 2030s if not for immigration. So there are two \_\_\_\_\_ issues to deal with: rapid population growth in some nations and population declines in others. Many see limiting population growth as vital for tackling various environmental catastrophes \_\_\_\_\_ around the world, as we report on in our article" What will a population of 8 billion people mean for us and the planet?" Yet for wealthy Westerners to call for lower-income countries to control their populations simply in the name of protecting nature is hypocritical in the extreme, given that the rich have vastly larger environmental footprints. What's more, there is often more than a \_\_\_\_\_ of racism to such calls.

Option:

- 1) combining, delectable, declining, reclining
- 2) selective, distinct, corresponding, extinct
- 3) shrinking, bustling, harnessing, unfolding



4) variety, range, whiff, number

**Answer:** declining, distinct, unfolding, whiff

104) A Massey ecologist has teamed up with a leading wildlife photographer to produce the definitive book on New Zealand's national bird, the kiwi. Kiwi: A Natural History was written by Dr Isabel Castro and \_\_\_\_\_ photographs by Rod Morris. Dr Castro has been working with kiwi \_\_\_\_\_ 1999, with a focus on their behavior. 'I've specifically been looking at the sense of smell that kiwi uses when foraging, but \_\_\_\_\_ in their interactions with their environment and other kiwi,' she says. The book covers all aspects of kiwi, from their evolution, prehistory and closest relatives to their feeding and breeding behavior and current conservation issues, \_\_\_\_\_ this the perfect introduction for anyone with an interest in these fascinating birds. The book is the second title in a new \_\_\_\_\_ on New Zealand's wildlife, targeted at a family readership.

**Option:**

- 1) featuring, featured, features, feature
- 2) within, through, since, until
- 3) also, yet, either, never
- 4) assuming, making, defying, meaning
- 5) revision, derivation, series, means

**Answer:** features, since, also, making, series

105) For a start, we need to change our \_\_\_\_\_ of 'retirement', and we need to change mind-sets arising from earlier government policy which, in the face of high unemployment levels, encouraged mature workers to take early retirement. Today, government encourages them to \_\_\_\_\_ their retirement.



We now need to think of retirement as a phased process, where mature age workers \_\_\_\_\_ reduce their hours, and where they have considerable flexibility in how they combine their work and non-work time. We also need to recognize the broader change that is occurring in how people work, learn, and live. Increasingly we are moving away from a linear relationship between education, training, work, and retirement, as people move in and out of jobs, careers, caregiving, study, and leisure. Employers of choice remove the \_\_\_\_\_ between the different segments of people's lives, by creating flexible conditions of work and a range of leave entitlements. They take an individualized approach to workforce planning and development so that the needs of employers and employees can be met \_\_\_\_\_. This approach supports the different transitions that occur across the life course - for example, school to work, becoming a parent, becoming responsible for the care of older relatives, and moving from work to retirement.

Option:

- 1) contempt, confrontation, concept, conclusion
- 2) delay, commence, protract, drag
- 3) radically, disruptively, abruptly, gradually \
- 4) hinges, barriers, nexus, bans
- 5) condescendingly, simultaneously, hypocritically, spontaneously

Answer: concept, delay, gradually, barriers, simultaneously

106) Look at the recent "Most Respected Companies" survey by the Financial Times. Who are the most respected companies and business leaders at the \_\_\_\_\_ time? Rather predictably, they are Jack Welch and General Electric, and Bill Gates, and Microsoft. \_\_\_\_\_ has achieved their world-class status through playing nice. Welch is still remembered for the brutal downsizing he



led his business \_\_\_\_\_, and for the environmental pollution incidents and prosecutions. Microsoft has had one of the \_\_\_\_\_ profile cases of bullying market dominance of recent times - and Gates has been able to \_\_\_\_\_ the financial status where he can choose to give lots of money away by being ruthless in business.

**Option:**

- 1) past, before, last, current
- 2) Also, Both, Neither, All
- 3) through, out, by, along
- 4) largest, highest, biggest, most
- 5) archive, acquaint, receive, achieve

**Answer:** current, Neither, through, highest, achieve

107) In the developed world, home appliances have greatly reduced the need for physical labor. \_\_\_\_\_ people need to be involved in tasks that once left them little time to do much else. For example, the word processor and email have, to a great \_\_\_\_\_, replaced the dedicated secretarial staff that briefly flourished with the rise of the typewriter. At \_\_\_\_\_ time all copies were made with manual scribes, carefully duplicating what they read. Then we had carbon paper. Then photocopiers. Then printers. Then the requirement for physical copy reduced. An entire stream of labor appeared and disappeared as technology advanced. We freed ourselves of one kind of work; we just replaced it \_\_\_\_\_ another.

**Option:**

- 1) Fewer, More, Less, Many
- 2) extension, possibility, range, extent
- 3) once, some, one, a



4) with, as, for, to

Answer: Fewer, extent, one, with

108) Decision making is central to the management of an enterprise. The manager of a profit-making business has to decide on the manner of implementation of the objectives of the business, at least one of which may \_\_\_\_\_ relate to allocating resources so as to maximize profit. A non-profit-making enterprise (such as a department of central or local government) will be making decisions on resource allocation so as to be economical, efficient and effective \_\_\_\_\_ finance. All organizations, whether in the private sector or the public sector, \_\_\_\_\_ decisions which have financial implications. Decisions will be about resources, which may be people, products, services or long-term and short term investment. Decisions will also be about activities, including whether and how to undertake them. Most decisions will at some stage involve consideration of financial matters, \_\_\_\_\_ cost.

Option:

- 1) well, definitely, also, thereby
- 2) in its use of, to an extent of, in the accordance with, on the level of
- 3) beget, uplift, adapt, take
- 4) eventually, consequently, particularly, spontaneously

Answer: well, in its use of, take, particularly

109) Affordable early years education and childcare potentially enables parents, particularly mothers, to be in paid employment. International studies \_\_\_\_\_ that countries with greater enrolment rates in publicly funded or provided childcare also have higher maternal employment rates, although untangling causal relationships is complex. From the point of view of the





household additional income, especially for the less well-off, is itself associated with better outcomes for children, as child poverty \_\_\_\_\_ to be a key independent determinant of children's outcomes. From the point of view of the public purse, as mothers \_\_\_\_\_ employment, they are likely to claim fewer benefits and to generate extra revenues \_\_\_\_\_ income tax.

**Option:**

- 1) are finding, found, have yet to find, have found
- 2) is shown, has been shown, was showing, showed
- 3) enact, enroll, enter, enlist
- 4) through, within, by, throughout

**Answer:** have found, has been shown, enter, through

110) While workers worry about whether robots will take their jobs, teachers are wondering how to use education to insulate the next generation from such a fate. This \_\_\_\_\_ before. When the last wave of automation swept the developed world at the start of the 20th century, policymakers decided education was the answer. If machines were going to substitute for brawn, \_\_\_\_\_, more people would need to use their brains. The US invested \_\_\_\_\_ in education, with good results. Workers reaped the benefits through better jobs and higher wages. Economists Andrew McAfee and Erik Brynjolfsson summed it up like this: 'The industrial revolution \_\_\_\_\_ a race between technology and education -- and, for most of the 20th century, humans won that race.'

**Option:**

- 1) would work, was working, has worked, has yet to work
- 2) it was, they objected, they reasoned, it was
- 3) inadvertently, heavily, stingily, expensively



4) started, installed, adapted, stalled

**Answer:** has worked, they reasoned, heavily, started

111) One of Australia's most remarkable natural gifts, the Great Barrier Reef is blessed with the breathtaking beauty of the world's largest coral reef. The reef contains an \_\_\_\_\_ of marine life and comprises of over 3000 individual reef systems and coral cays and literally hundreds of \_\_\_\_\_ tropical islands with some of the world's most beautiful sun-soaked, golden beaches. Because of its natural beauty, the Great Barrier Reef has become one of the world's most \_\_\_\_\_ after tourist destinations. A visitor to the Great Barrier Reef can enjoy many \_\_\_\_\_ including snorkeling, scuba diving, aircraft or helicopter tours, bare boats (self-sail) glass-bottomed boat viewing, semi-submersibles and educational trips, cruise ship tours, whale watching and swimming with dolphins.

**Option:**

- 1) access, acquaintance, equivalence, abundance
- 2) illusionary, exterritorial, picturesque, visionary
- 3) sought, thought, caught, met
- 4) expeditions, experiences, expectations, emporiums

**Answer:** abundance, picturesque, sought, experiences

112) Kathryn Mewes does not meet bohemian, hippy parents in her line of work. Typically one, or both, of the parents she sees work in the City of London. "Professionals seek professionals," she says. Originally a nanny, Mewes is now a parenting consultant, advising couples privately on changing their child's behavior, \_\_\_\_\_ doing corporate seminars for working parents. Her clients find they are unprepared for the chaos and unpredictability that having a



child can entail. "Parents are getting older, they have been in control their \_\_\_\_\_ lives and been successful. Suddenly a baby turns up and life turns on its head." Nicknamed the "Three-Day Nanny" \_\_\_\_\_ her pledge to fix behavioral problems in children under the age of 12 within three days, she is filming a new Channel 4 television series demonstrating her techniques. The \_\_\_\_\_ of the parenting consultant - distinct from that of a nanny - has developed, she says, as people are used to buying in expertise, such as personal trainers or, in her case, parenting advice.

**Option:**

- 1) as long as, in order to, in spite of, as well as
- 2) whole, all, full, every
- 3) related with, together with, because of, according to
- 4) percentage, performance, role, belief

**Answer:** as well as, whole, because of, role

- 113) The widespread use of artificial light in modern societies means that light pollution is an increasingly common feature of the environments humans inhabit. This type of pollution is \_\_\_\_\_ high in coastal regions of tropic and temperate zones, as these are areas of high rates of human population growth and settlement. Light pollution is a threat for many species that inhabit these locations, particularly those whose ecology or behavior depends, \_\_\_\_\_, on natural cycles of light and dark. Artificial light is known to have detrimental effects on the ecology of sea turtles, particularly at the hatchling stage when they emerge from nests on natal beaches and head towards the sea. Under natural conditions, turtles hatch predominantly at night (although some early morning and late afternoon emergences occur) and show an innate and well-directed orientation to the water, \_\_\_\_\_



mostly on light cues that attract them toward the brighter horizon above the sea surface. Artificial lighting on beaches is strongly attractive to hatchlings and can cause them \_\_\_\_\_ away from the sea and interfere with their ability to orient in a constant direction. Ultimately, this disorientation due to light pollution can lead to death of hatchlings from exhaustion, dehydration and predation.

**Option:**

- 1) exceptionally, absolutely, nearly, rarely
- 2) in no way, in some way, by the way, by no means
- 3) imposing, figuring, relying, pouring
- 4) to move, moving, moved, move

**Answer:** exceptionally, in some way, relying, to move

114) Dance has played an important role in many musicals. In some \_\_\_\_\_, dance numbers are included as an excuse to add to the color and spectacle of the show, but dance is more effective when it forms an integral part of the \_\_\_\_\_. An early example is Richard Rodgers On Your Toes(1936) in which the story about classical ballet meeting the world of jazz enabled dance to be introduced in a way that \_\_\_\_\_, rather than interrupts the drama.

**Option:**

- 1) dimensions, cases, brief, extent
- 2) prowess, plot, phenomenon, roundabout
- 3) encumbers, enhances, levels, crumples

**Answer:** cases, plot, enhances

115) The principal recommendation of the world conferences was that countries must take full responsibility for their own development. National responsibility



for national development is the necessary consequence of \_\_\_\_\_. The Monterrey Consensus states that each country has primary responsibility for its own economic and social development, and the role of national policies and development strategies cannot be \_\_\_\_\_. The Johannesburg Plan of \_\_\_\_\_ called for all governments to begin implementing national sustainable development strategies (NSDS) by 2005 and the 2005 Summit agreed on a target to achieve the internationally agreed goals. The automatic \_\_\_\_\_ of that principle is that each country must be free to determine its own development strategy. It is essential that all donors and lenders accept the principle of country ownership of national development strategies. This implies the acceptance of the principle that development strategies should not only be \_\_\_\_\_ to country circumstances but also be prepared and implemented under the leadership of the governments of the countries themselves. The 2005 World Summit also acknowledged, in this regard, that all countries must recognize the need for developing countries to strike a \_\_\_\_\_ between their national policy priorities and their international commitments.

**Option:**

- 1) democracy, sovereignty, dependency, society
- 2) over-thought, countenanced, over-emphasized, over-heard
- 3) implement, implication, instruction, implementation
- 4) induction, conclusion, topic, corollary
- 5) attuned, attempted, terminated, wrapped
- 6) difference, relationship, balance, similarity

**Answer:** sovereignty, over-emphasized, implementation, corollary, attuned, balance

- 116) Digital media and the internet have made the sharing of texts, music and images easier than ever, and the \_\_\_\_\_ of copyright restriction harder. This



situation has encouraged the growth of IP law, and \_\_\_\_\_ increased industrial concentration on extending and 'policing' IP protection, while also leading to the growth of an 'open access', or 'creative commons' movement which \_\_\_\_\_ such control of knowledge and \_\_\_\_\_.

**Option:**

- 1) detriment, solstice, enforcement, commissary
- 2) straggled, prompted, equated, grappled
- 3) challenges, hankered, allows, compelled
- 4) comparison, penmanship, quotient, creativity

**Answer:** enforcement, prompted, challenges, creativity

117) Sydney is becoming effective in making the best of its limited available unconstrained land. Sydney is suitable for integrating suitable business, office, residential, retail and other development in accessible locations so as to maximize public transport \_\_\_\_\_ and encourage walking and cycling. Also, this city can reduce the \_\_\_\_\_ of land for housing and associated urban development on the urban fringe. For the proposed mixed business, mixed use and business park areas, there was no employment data available for \_\_\_\_\_ areas. It is also concluded that lack of housing supply will affect \_\_\_\_\_ in Sydney.

**Option:**

- 1) profit, perspective, percentage, patronage
- 2) consumption, replenishment, inventory, accumulation
- 3) compensatory, competitive, communicative, comparable
- 4) durability, floridity, fluidity, affordability

**Answer:** patronage, consumption, comparable, affordability





118) Because the instructional methods, expected class participation and the nature of the courses vary, no fixed number of absences is \_\_\_\_\_ to all situations. Each instructor is \_\_\_\_\_ for making clear to the class at the beginning of the semester his or her \_\_\_\_\_ and procedures in \_\_\_\_\_ to class attendance and the reasons for them.

Option:

- 1) applicable, exceptional, ubiquitous, exempt
- 2) respectful, sensitive, responsible, negligible
- 3) stereotypes, policies, features, tempers
- 4) addition, regard, proportion, correspondence

**Answer:** applicable, responsible, policies, regard

119) A music student at the University of Salford who wrote a song in two weeks is celebrating \_\_\_\_\_ being featured on a compilation album produced by Metropolis Studios. Pop mega-stars including Adele, Michael Jackson and Sir Elton John have all recorded music at the world-famous Metropolis Studios. Last year, the recording studios set \_\_\_\_\_ compiling an album called 'Lost Songs', which features songs from relatively unknown musicians. First-year student Zak Taylor Fray decided to submit his song demo to be included in Volume Two of the Lost Songs album which was released this year, after he saw \_\_\_\_\_ successful Volume One had been. Zak 24, said: ' I found this competition when simply \_\_\_\_\_ the internet for songwriting competitions one day, and was lucky that there was still \_\_\_\_\_ to enter. It amazes me that people who have worked with huge pop stars thought my song was good and worth something.'

Option:

- 1) except, without, before, after



- 2) off, on, up, about
- 3) how, that, which, if
- 4) search, searching, have searched, searched
- 5) expiry, chance, opportunity, time

**Answer:** after, about, how, searching, time

120) The writer, or, for that matter, the speaker conceives his thought whole, as a unity, but must express it in a line of words; the reader, or listener, must take this line of symbols and from it \_\_\_\_\_ the original wholeness of thought. There is \_\_\_\_\_ difficulty in conversation, because the listener receives innumerable cues from the physical expressions of the speaker; there is a dialogue, and the listener can \_\_\_\_\_ in at any time. The advantage of group discussion is that people can overcome linear sequence of words by \_\_\_\_\_ on ideas from different directions; which makes for wholeness of thought. But the reader is confronted by line upon line of printed symbols, without benefits of physical \_\_\_\_\_ and emphasis or the possibility of dialogue or discussion.

**Option:**

- 1) recover, respect, reconstruct, reduce
- 2) little, no, many, few
- 3) lean, cut, intrude, get
- 4) inventing, spending, conceiving, converging
- 5) tune, thumb, tone, tile

**Answer:** reconstruct, little, cut, converging, tone

121) A giant turtle made from discarded plastic trash will greet visitors to the British Science Festival this week. The plastic containers, bottles and cups were collected locally in Hull, where the event is taking place at the city's university.



Standing 3.5m tall (11.5ft), the art installation \_\_\_\_\_ commissioned by the University of Hull with the aim of raising awareness of plastic waste. Professor Dan Parsons, director of the university's Energy and Environment Institute, said: 'Marine pollution is a mounting global challenge, which is already having \_\_\_\_\_ consequences. We have a duty to protect these fragile environments and the marine life and ecosystems which we \_\_\_\_\_ home. The university has commissioned this installation as a physical \_\_\_\_\_ of what is ending up in the oceans, but also to ask visitors to campus to stop and think what they could do to try to reduce their own waste.'

**Option:**

- 1) has, being, have, was
- 2) devastated, devastating, devastate, to devastate
- 3) settle, call, originate, go
- 4) reminder, receipt, reinforcement, recognition

**Answer:** was, devastating, call, reminder

122) Assessments of language learning in 18-month-olds suggest that children are better at grasping the names of objects with repeated syllables, over words with non-identical syllables. Researchers say the study may help explain \_\_\_\_\_ some words or phrases, such as 'train' and 'good night', have given rise to versions with repeated syllables, such as choo-choo and night-night. The researchers say such words are easier for infants to learn, and may provide them \_\_\_\_\_ a starter point for vocabulary learning. A team from the University of Edinburgh assessed the infants' language learning behavior in a series of visual and attention tests \_\_\_\_\_ pictures on a computer screen of two unfamiliar objects. The two objects were named with made-up words which were \_\_\_\_\_ to the infants by a recorded voice - one with two identical



syllables, for example neenee, and the other without repeated syllables, such as bolay. The infants were then tested for their recognition of \_\_\_\_\_ word. Recordings of their eye movements showed they looked more reliably at the object labeled with repeated syllables, than the other object. Researchers validated their results with a control test, in which the infants responded to pictures of familiar objects – such as a dog or an apple.

Option:

- 1) that, whether, however, why
- 2) under, above, in, with
- 3) depleting, making, applying, using
- 4) communicated, expressed, accommodated, accelerated
- 5) another, dual, each, one

Answer: why, with, using, communicated, each

123) A novel invention for helping farmers to dry out hay more quickly has won a University of Glasgow graduate a prestigious design award. Gavin Armstrong, 23, from Kippen, Stirlingshire \_\_\_\_\_ the Glasgow 1999 Design Medal for his design for a swath inverter— a \_\_\_\_\_ for flipping over a hay crop to help dry out the damp underside. Dry hay is an essential farmyard food source for sheep and cows. Gavin came up with the design as part of his Product Design Engineering degree course, run in \_\_\_\_\_ with Glasgow School of Art. He built a working prototype of the device which is powered and towed by a tractor and uses a pair of parallel belts to invert the swath. The rollers are driven from one hydraulic motor and are geared so as to spin at the same speed and in opposite directions \_\_\_\_\_ that the touching inner two faces of the belt that perform the inversion move rearwards at the same speed.

Option:-



- 1) forged, consigned, renewed, scooped
- 2) suggestion, prediction, situation, device
- 3) comparison, accordance, conjunction, contrast
- 4) denying, supposing, imposing, ensuring

**Answer:** scooped, device, conjunction, ensuring

124) Can dogs tell when we are happy, sad or angry? As a dog owner, I feel \_\_\_\_\_ not only that I can tell what kind of \_\_\_\_\_ state my pets are in, but also that they respond to my emotions. Yet as a hard-headed scientist, I try to take a more \_\_\_\_\_ and pragmatic view. These \_\_\_\_\_ observations seem more likely to result from my desire for a good relationship with my dogs.

**Option:-**

- 1) relieved, sententious, embarrassed, confident
- 2) political, emotional, financial, physical
- 3) irregular, chaste, stoical, rational
- 4) communal, discrete, absurd, personal

**Answer:** confident, emotional, rational, personal

125) It is important to emphasize the need for hard work as an essential part of studying law, because far too many students are tempted to think that they can succeed by relying on what they imagine to be their natural ability, without bothering to add the \_\_\_\_\_ of effort. To take an analogy some people prefer the more or less instant \_\_\_\_\_ which comes from watching television adaptation of a classic novel to the rather more \_\_\_\_\_ process of reading the novel itself. Those who \_\_\_\_\_ watching television to reading the book are less likely to study law successfully, unless they rapidly acquire a \_\_\_\_\_ for text-based materials.



Option:-

- 1) expenditure, exhaustion, explanation, exclusion
- 2) gratification, excitement, temptation, obsession
- 3) simple, complex, effortless, laborious
- 4) prefer, Enjoy, interest, like
- 5) knowledge, idea, motivation, taste

Answer: expenditure, gratification, laborious, prefer, taste

126) The morality of the welfare state depends on contribution and responsibility. Since some people don't contribute and many are irresponsible, the choices of those who do contribute and are responsible are either to \_\_\_\_\_ the free riders, refuse to pay for the \_\_\_\_\_ of their irresponsibility or trust the state to \_\_\_\_\_ them. Hence the government campaigns against smoking, alcoholism, obesity and gas guzzling - the first two solidly in place, the other two ramping up. But the British state now goes further: it acts in favor of sexual and racial minorities. In the case of gay men and women this means progressively removing the legal disadvantages under which they have lived, and ensuring that society as a whole observes the new order.

Option:-

- 1) tolerate, believe, overlook, misunderstand
- 2) effects, contents, appearances, causes
- 3) educate, breach, divide, muster

Answer: tolerate, effects, educate

127) A creature may have fine physical defenses such as hard armor or sharp spines. It may have powerful chemical defenses such as an \_\_\_\_\_ smell or a foul taste but none of these defenses is much used in the \_\_\_\_\_ for survival





unless the animal also has the right behavior to go with it. Evolution shapes a living creature's size and color, and it also shapes an animal's actions and behavioral patterns. The most \_\_\_\_\_ behaviors are instinctive or in-built. In other words, the creatures can perform the actions without having to learn what to do it by \_\_\_\_\_ and error.

Option:-

- 1) agreeable, enchanting, ordinary, appalling
- 2) struggle, march, game, campaign
- 3) dangerous, automatic, difficult, ascetic
- 4) attempt, doing, trial, tasting

Answer: appalling, struggle, automatic, trial

128) New technologies are helping cities replace failing water infrastructure. Piping systems allow polymer-based materials to be inserted into old pipes to repair faults and \_\_\_\_\_ leaks without having to dig up and lay new pipes. When it comes to managing waste water, new systems are \_\_\_\_\_, such as Advanced Immobilized Cell Reactor technology, which uses a system based on the immobilization of bacteria, reducing the power and land area needed for conventional waste water treatment systems. And companies have realized that much can be achieved by re-examining their products at the \_\_\_\_\_ stage. By designing items that can be more easily picked apart and that use fewer different materials in their construction, companies can increase the \_\_\_\_\_ content of what they produce, cutting waste and generating cost-savings by being able to re-use parts and materials.

Option:-

- 1) contain, stabilize, deposit, reduce
- 2) ongoing, adjourning, upbringing, emerging



- 3) envision, showcase, profile, development
- 4) dense, recyclable, crumpled, clumsy

**Answer:** reduce, emerging, development, development

129) Paraphrasing is often defined as putting a passage from an author into your own words. However, what are your own words? How different must your paraphrase be from the original? The answer is it should be \_\_\_\_\_ different. The whole point of paraphrasing is to show you have read and understood another person's ideas, and can summarize them in your own writing style rather than borrowing their phrases. If you just change a few words, or add some bits \_\_\_\_\_ your own to an otherwise reproduced passage, you will probably \_\_\_\_\_ for plagiarism. You should aim to condense and simplify a writer's ideas and describe them using different sentence structures and expressions. \_\_\_\_\_ also important to credit the original writer by referencing.

**Option:-**

- 1) considerable, considerate, considering, considerably
- 2) despite, of, on, off
- 3) be penalizing, be penalized, have penalized, penalize
- 4) That has, It is, There is, That is

**Answer:** considerably, of, be penalized, It is

130) The study of objects constitutes a relatively new field of academic enquiry, commonly referred to as material culture studies. Students of material culture seek to understand societies, both past and present, through careful study and \_\_\_\_\_ of the physical or material objects generated by those societies. The source material for study is exceptionally wide, \_\_\_\_\_ not just human-made artefacts but also natural objects and even preserved body parts (as



you saw in the film 'Encountering a body'). Some specialists in the field of material culture have made bold claims for its pre-eminence. In certain disciplines, it reigns \_\_\_\_\_. It plays a critical role in archaeology, for example, especially in circumstances where written evidence is either patchy or non-existent. \_\_\_\_\_, objects are all scholars have to rely on in forming an understanding of ancient peoples. Even where written documents survive, the physical remains of literate cultures often help to provide new and interesting insights into how people once lived and thought, \_\_\_\_\_ the case of medieval and post-medieval archaeology. In analyzing the physical remains of societies, both past and present, historians, archaeologists, anthropologists and others have been careful to remind us that objects mean different things to different people.

Option:-

- 1) experiment, modification, consumption, observation
- 2) includes, including, included, had included
- 3) power, supreme, force, strength
- 4) By no means, In such cases, In this time, In this way
- 5) as long as, as if, as a result of, as in

Answer: observation, including, supreme, In such cases, as in

131) Psychology as a subject of study has largely developed in the West since the late nineteenth century. During this period there has been an \_\_\_\_\_ on scientific thinking. Because of this, there have been many scientific studies in psychology which \_\_\_\_\_ different aspects of human nature. These include studies into how biology (physical factors) influences human experience, how people use their \_\_\_\_\_ (touch, taste, smell, sight and hearing) to get to know the world, how people develop, why people behave in certain ways, how



memory works, how people develop language, how people understand and think about the world, what motivates people, why people have emotions and how personality develops. These scientific \_\_\_\_\_ all contribute to an understanding of human nature. What do we mean by the practical applications of these studies? An \_\_\_\_\_ of psychology is useful in many different areas in life, such as education, the workplace, social services and medicine. This means that people who have knowledge of psychology can \_\_\_\_\_ or apply that knowledge in areas such as the ones listed above.

Option:-

- 1) emphasis, attention, example, extension
- 2) exclude, summon, separate, explore
- 3) brains, skins, minds, senses
- 4) assumptions, correlations, investigations, stimulations
- 5) ideology, empowerment, understanding, equivalence
- 6) register, classify, use, prepare

Answer: emphasis, explore, senses, investigations, understanding, use

132) In a new study \_\_\_\_\_ in the journal Nature Communications, scientists from the universities of Nottingham and Durham and the British Geological Survey (BGS), have discovered the cause of a mass extinction within marine organisms called foraminifera. Foraminifera are an important group in relation to biomass in the deep ocean and the cause of their extinction was \_\_\_\_\_ unknown. Scientists tested various possible \_\_\_\_\_ for the mass extinction and were able to discount others such as ocean cooling. \_\_\_\_\_ they discovered that the extinction was caused by a global change in plankton at the surface of the ocean.

Option:-



- 1) publishing, has published, published, be publishing
- 2) occasionally, necessarily, previously, currently
- 3) causes, consequences, elements, factors
- 4) Hence, Thus, So, Instead

**Answer:** published, previously, causes, Instead

133) As digitalization and smart automation progress, many will see their jobs altered. Advances in automation technologies will mean that people will \_\_\_\_\_ work side by side with robots, smart automation and artificial intelligence. Businesses will look for employees who are good at the tasks that smart automation \_\_\_\_\_ to do and that add value to the use of smart automation. In the past, technological progress has had a positive impact on our society, increasing labor productivity, wages and prosperity. Right now, a new technological wave of digitalization and smart automation – \_\_\_\_\_ of artificial intelligence, robotics and other technologies – is fundamentally transforming the way we work, at an unprecedented pace. \_\_\_\_\_, data analytics, the Internet of Things and drones are already used in many industries to make production processes better, faster, and cheaper. We already see shifts in the structure of employment: in industries, tasks, educational levels and skills.

**Option:-**

- 1) increase, increasingly, increasing, increased
- 2) struggled, struggling, struggles, used to struggle
- 3) combinations, combines, combining, combine
- 4) Instead, Of course, No wonder, For example

**Answer:** increasingly, struggles, combinations, For example



134) All of this suggests that our relationship to our phones might not be sufficiently intellectualized, which is why Brian Merchant's book comes as a \_\_\_\_\_. Like the best historians, Merchant, an American journalist and editor of Vice Media's technology blog, Motherboard, \_\_\_\_\_ the history of the iPhone in a way that makes it seem both inevitable in its outline and \_\_\_\_\_ in its details.

Option:-

- 1) privilege, relief, demotion, flash
- 2) enriches, unpacks, detours, contorts
- 3) surprises, surprised, surprising, surprise

Answer: relief, unpacks, surprising

135) All of this suggests that our relationship to our phones might not be sufficiently intellectualized, which is why Brian Merchant's book comes as a \_\_\_\_\_. Like the best historians, Merchant, an American journalist and editor of Vice Media's technology blog, Motherboard, \_\_\_\_\_ the history of the iPhone in a way that makes it seem both inevitable in its outline and \_\_\_\_\_ in its details.

Option:-

- 1) privilege, relief, demotion, flash
- 2) enriches, unpacks, detours, contorts
- 3) surprises, surprised, surprising, surprise

Answer: relief, unpacks, surprising





## READING : FILL IN THE BLANKS

1. Financial resources and sound investments are needed to \_\_\_\_\_ climate change. to both reduce emissions, \_\_\_\_\_ adaptation to the impacts that are already occurring, and to build resilience. The benefits that flow from these investments, however, dramatically \_\_\_\_\_ any upfront costs. According to a study, the world will need to make significant investment in infrastructure over the next 15 years, but it can \_\_\_\_\_ those investments.  
Option: recruit, address, promote, derange, outline, outweigh, recoup  
Answer: address , promote, outweigh, recoup
2. Counseling is an \_\_\_\_\_ service that colleges and universities invariably provide. \_\_\_\_\_ with minor concerns. Life Services can range from life-saving care to \_\_\_\_\_, such as deaths and divorces in the family, issues with friends, substance abuse, and suicide are just a few of the many issues that college students may experience or \_\_\_\_\_ others struggling with.  
Option: influence, conjunction, assistance, essential, economic, witness, stressors  
Answer: essential, assistance, stressors, witness
3. Forests \_\_\_\_\_ 31% of the land area on our planet. They help people thrive and survive by, for example, \_\_\_\_\_ water and air and providing people with jobs; some 13.2 million people across the world have a job in the forest are also \_\_\_\_\_ to more than three-quarters of the world's life on land.  
Option: home, locate, engaging, cover, sector, segment, purifying  
Answer: cover, purifying, home
4. The lightest of any solid element, lithium has, until now, played a \_\_\_\_\_ role in industry. Silvery in color, and softer than lead, it has been used mainly as an



alloy of aluminum, a base for automobile grease, and in the \_\_\_\_\_ of glass and ceramics. It is so \_\_\_\_\_ that it is never found in its pure form in nature. Lithium floats on water -- or, \_\_\_\_\_, it skitters wildly about, trailing a vapor cloud of hydrogen, \_\_\_\_\_ it dissolves.

Option: rather, production, unstable, modest, unknown, even, intuition, until

Answer: modest, production, unstable, rather, until

5. Assessments of language learning in 18-month-olds suggest that children are better at grasping the names of objects with repeated syllables, over words with non-identical syllables. Researchers say the study may help \_\_\_\_\_ why some words or phrases, such as 'train' and 'good night', have given rise to versions with repeated syllables, such as choo-choo and night-night. The researchers say such words are easier for infants to learn, and may provide them \_\_\_\_\_ a starter point for vocabulary learning. A team from the University of Edinburgh assessed the infants' language learning behavior in a series of \_\_\_\_\_ and attention tests using pictures on a computer screen of two unfamiliar objects. The two objects were named with \_\_\_\_\_ words which were \_\_\_\_\_ to the infants by a recorded voice – one with two identical syllables, for example neenee, and the other without repeated syllables, such as bolay. The infants were then tested for their recognition of \_\_\_\_\_ word. Recordings of their eye movements showed they looked more reliably at the object labeled with repeated syllables, than the other object. Researchers validated their results with a control test, in which the infants responded to pictures of familiar objects – such as a dog or an apple.

Option: content, with, genuine, visual, explain, communicated, since, made-up, each

Answer: explain, with, visual, made-up, communicated, each



6. Civics and citizenship education builds student's knowledge and understanding of the ways in which citizens can actively \_\_\_\_\_ in Australia's diverse and inclusive society. Students learn about the civic institutions and the \_\_\_\_\_ through which decisions are made for the common good of the \_\_\_\_\_ and they also develop the \_\_\_\_\_ and understandings that relate to the organization of a harmonious democratic society.

**Option:** processes, precision, skills, involve, humanity, participate, wills, community

**Answer:** participate, processes, community, skills

7. At the height of summer, the Antarctic, tourist ships move gently around the coast. Even 30 years ago such sights would have been unthinkable, but today people are willing to pay large sums of money to see the last real wilderness in the world. In the Arctic, careless human exploitation \_\_\_\_\_ has damaged the fragile ecosystem. Today concerned governments are trying to find ways to develop the region \_\_\_\_\_ caring for the very special natural environment. \_\_\_\_\_ the Antarctic is less accessible than the Arctic, it is still largely undamaged by humans, although holes in the ozone layer above the Antarctic \_\_\_\_\_ discovered. Many people believe that one way to preserve the area is to make the whole region into a world park, with every form of exploitation internationally \_\_\_\_\_.

**Option:** whereas, have already been, in the future, is to be, while, Except, Because, in the past, banned, infested

**Answer:** in the past, while, Because, have already been

8. Number and form are the essence of our world: from the patterns of the stars to the pulses of the market, from the \_\_\_\_\_ of our hearts to catching a ball or tying our shoelaces. Drawing on science, literature, history and philosophy,



and introducing \_\_\_\_\_ from Alcibiades to Gauss, this \_\_\_\_\_ book makes the mysteries of maths accessible and its rich \_\_\_\_\_ brilliantly clear.

**Option:** geniuses, beats, inspiring, textures, patterns, novelties, rare, tempo

**Answer:** beats, geniuses, inspiring, patterns

9. Joseph Engelberger, a pioneer in industrial robotics, once remarked "I can't \_\_\_\_\_ a robot, but I know one when I see one." If you consider all the different machines people \_\_\_\_\_ robots, you can see that it's nearly impossible to come up with a \_\_\_\_\_ definition. Everybody has a different idea of what constitutes a robot.

**Option:** call, create, complex, need, comprehensive, define, invent

**Answer:** define, call, comprehensive

10. Coastal fish farms seem to do less harm to nearby plants and animals than previously believed, a new study \_\_\_\_\_. And marine ecosystems can recover from this damage \_\_\_\_\_ fast. But the analysis of a single trout farm in a Faroe Islands fjord over nearly a year also shows that these facilities need to be \_\_\_\_\_ carefully, and that there's a limit to how many can \_\_\_\_\_ in a particular area before its biodiversity suffers lasting harm. In coastal farms, fish live in large cages hanging from pontoons on the surface. Fish feces and uneaten food sink to the seabed, affecting its ecosystem. Badly-managed farms can also have serious \_\_\_\_\_ on the surrounding water column.

**Options:** nearly, operate, reveals, emphasized, symbols, surprisingly, counts, placed, effects, display

**Answer:** reveals, surprisingly, placed, operate, effects

11. Trees, as ever, are or should be at the heart of all \_\_\_\_\_ on climate change. The changes in carbon dioxide, in temperature, and in patterns of rainfall will each affect them in many ways, and each parameter \_\_\_\_\_ with all the



others, so between them, these three mains \_\_\_\_\_ present a bewildering range of possibilities.

Option: interacts, variables, discussions, chat, variations, notes

Answer: discussions, interacts, variables

12. Recommended energy intakes are difficult to \_\_\_\_\_ even among individuals of the same age, sex, weight, height and general pattern of \_\_\_\_\_. Therefore, the energy requirement for healthy people is often \_\_\_\_\_ as the amount of energy needed to \_\_\_\_\_ the status quo.

Option: obtain, entities, calculate, excised, expressed, maintain, activity

Answer: calculate, activity, expressed, maintain

13. So why the concern? It's partly \_\_\_\_\_ radioactivity is invisible. If you receive a large dose, or if you \_\_\_\_\_ radioactive heavy metals, it is certainly toxic, and we tend to \_\_\_\_\_ it with cancer, a great fear in modern \_\_\_\_\_. Nuclear waste is also highly concentrated. While this is seen as a "problem" it can be an advantage - it is very localized and its radioactive nature, means we can detect easily, the movement of tiny amounts of material.

Option: attract, volatile, ingest, world, that, associate, induce, because, society

Answer: because, ingest, associate, society

14. English has been changing throughout its lifetime and it's still changing today. For most of us, these changes are fine as long as they're well and truly in the past. Paradoxically, we can be \_\_\_\_\_ about word origins and the stories behind the \_\_\_\_\_ we find in our language, but we \_\_\_\_\_ a queasy distaste for any \_\_\_\_\_ that might be happening right under our noses. There is a certain \_\_\_\_\_ of consistency. There are even language critics who are \_\_\_\_\_ that English is dying, or if not dying at least being progressively \_\_\_\_\_ through long years of mistreatment.



Option: curious, crippled, convinced, experience, structure, expect, kind, lack, change

Answer: curious, structure, experience, change, lack, convinced, crippled

15. Wind is air moving around. Some winds can move \_\_\_\_\_ fast as a racing car, over 100 miles per \_\_\_\_\_. Winds can travel around the world. Wind can make you feel cold because you lose heat from your body \_\_\_\_\_ when it is windy. Weather forecasters need \_\_\_\_\_ know the speed and direction of the wind. The strength of wind is measured using the Beaufort scale from wind force 0 when there is no wind, to wind force 12 which can damage houses and buildings and is called hurricane force.

Option: hour, as, second, more, slower, with, to, faster

Answer: as, hour, faster, to

16. Performance appraisals have traditionally been considered the best way to \_\_\_\_\_ an employee's performance, but increasingly organizations are finding them of little \_\_\_\_\_. Employees find them stressful and unhelpful. Importantly, they also take up a lot of time. When Deloitte analyzed their own \_\_\_\_\_, they found managers and employees spent around 2 million hours a year on performance reviews. A growing number of companies have decided to \_\_\_\_\_ performance reviews altogether, instead introducing more regular catch-ups.

Options: monopolize, rating, value, presence, evaluate, abolish, process

Answer: evaluate, value, process, abolish

17. Clones of an Eastern cottonwood (*Populus deltoids*) in the Bronx and other city spots grew to double the biomass of clones \_\_\_\_\_ outside small towns upstate or on Long Island, says Jillian Gregg, now of the Environmental Protection Agency's western-ecology division in Corvallis, Ore. The growth gap comes from ozone damage, she and her New York colleagues report.





\_\_\_\_\_ chemists have known that \_\_\_\_\_ may spike skyscraper high in city air, but during a full 24 hours, rural trees actually get a higher cumulative ozone exposure from \_\_\_\_\_ pollution that blows in and lingers. A series of new experiments now shows that this hang-around ozone is the \_\_\_\_\_ factor in tree growth, the researchers say in the July 10 Nature. "This study has profound importance in showing us most vividly that rural areas \_\_\_\_\_ the price for urban pollution," says Stephen P. Long of the University of Illinois at Urbana-Champaign. "This work should be a wake-up call," he adds.

**Option:** pay, solution, urban, oxygen, ozone, rural, gaps, spend, overwhelming, concentrations, planted, invades, necessary, protected

**Answer:** planted, ozone, concentrations, urban, overwhelming, pay

18. Pop mega-stars including Adele, Michael Jackson and Sir Elton John have all \_\_\_\_\_ music at the world-famous Metropolis Studios. Last year, the recording studios set about compiling an album called 'Lost Songs', which \_\_\_\_\_ songs from relatively unknown musicians. First-year student Zak Taylor Fray decided to submit his song demo to be \_\_\_\_\_ in Volume Two of the Lost Songs album which was released this year, after he \_\_\_\_\_ how successful Volume One had been. Zak 24, said: 'I \_\_\_\_\_ this competition when simply searching the internet for songwriting competitions one day, and was lucky that there was still time to enter. It amazes me that people who have worked with huge pop stars thought my song was good and worth something.'

**Option:** features, recorded, assuming, deletes, sew, included, found, inclined, saw, delivered

**Answer:** recorded, features, included, saw, found

19. Housing agencies pay the utility \_\_\_\_\_, generally because \_\_\_\_\_ in developments don't have individual meters. Some buildings have individual



meters, and each family pays its own to the utility \_\_\_\_\_, so agencies will deduct the \_\_\_\_\_ from your \_\_\_\_\_.

**Option:** costs, units, company, allowance, spends, amount, debt, collect, rent

**Answer:** costs, units, company, amount, rent

20. Timing is important for revision. Have you noticed that during the school day you get times when you just don't care any longer? I don't mean the lessons you don't like, but the ones you find usually OK, but on some occasions, you just can't be bothered with it. You \_\_\_\_\_ have other things on your mind, be tired, restless, or looking forward to what comes next. Whatever the reason, that particular lesson doesn't get 100 percent \_\_\_\_\_ from you. The same is true of revision. Your mental and physical \_\_\_\_\_ are important. If you try to revise when you are tired or totally occupied with something else, your revision will be inefficient and just about worthless. If you approach it feeling fresh, alert and happy, it will be so much easier and you will learn more, faster. However, if you make no plans and just slip in a little bit of revision when you feel like it, you probably won't do much revision! You need a revision timetable so you don't keep \_\_\_\_\_.

**Option:** may, getting it wrong, attitudes, putting it off, down, can, effort, health

**Answer:** may, effort, attitudes, putting it off

21. At times, a broad stream of knowledge flowed from China to Japan. At other times, this transfer was \_\_\_\_\_ on one side or the other, and Japan \_\_\_\_\_ on its own. But whether in isolation or not, Japan was always itself. Everything that \_\_\_\_\_ from China was \_\_\_\_\_ to suit Japanese tastes and needs.

**Option:** adapted, remained, arrived, halted, hoisted, developed

**Answer:** halted, developed, arrived, adapted



22. It is difficult to tell precisely when the Breton language was born. As early as the VIth century the new country was \_\_\_\_\_ and known as 'Lesser Britain', but for many centuries its language \_\_\_\_\_ close to the one of Great Britain's- very close even to the dialect spoken in the South West. The VIIIth century is the milestone where Breton, Cornish and Welsh are \_\_\_\_\_ as different languages.

**Option:** registered, considered, supplanted, remained, established, retreated

**Answer:** established, remained, considered

23. Mathematics and statistics play a \_\_\_\_\_ in almost all daily activities. They are at the \_\_\_\_\_ of advances in science and technology, as well as providing \_\_\_\_\_ problem-solving and decision-making tools in many \_\_\_\_\_ of life. They underpin the rigorous analysis and modelling required for new policies, designs and systems. Mathematical and statistical knowledge is much sought after by employers for a wide \_\_\_\_\_ of jobs, not least in teaching the subject, and a qualification in any one of the areas we offer can bring real benefits in your professional life.

**Option:** process, heart, areas, novel, part, indispensable, content, radius, variety

**Answer:** part, heart, indispensable, areas, variety

24. Complementary therapies - such as those \_\_\_\_\_ by naturopaths, chiropractors, and acupuncturists - have become increasingly popular in Australia over the last few \_\_\_\_\_. Interest initially coincided with \_\_\_\_\_ for alternative lifestyles, while immigration and increased contact and trade with China have also had an \_\_\_\_\_. The status of complementary therapies is being re-visited in a number of areas: legal regulation; the stances of doctors' associations; their inclusion in medical education; and scientific research into their \_\_\_\_\_.



Option: field, practiced, theorized, influence, enthusiasm, increase, times, decades, ambition, efficacy

Answer: practiced, decades, enthusiasm, influence, efficacy

25. Descendants of the Maya living in Mexico still sometimes refer to themselves as the corn people. The phrase is not intended as \_\_\_\_\_. Rather, it's meant to \_\_\_\_\_ their abiding dependence on this miraculous grass, the \_\_\_\_\_ of their diet for almost nine thousand years. Forty percent of the calories Mexican eats in a day comes directly from corn, most of it in the form of tortillas. So when a Mexican says I am maize or corn walking, it is simply a statement of fact: The very substance of the Mexicans body is to a considerable extent a \_\_\_\_\_ of this plant.

Option: stage, metaphor, acknowledge, staple, declaration, implicit, stable, manifestation

Answer: metaphor, acknowledge, staple, manifestation

26. Zika is more pernicious than public health officials anticipated. At present, it is circulating in more than 50 countries. And as of mid-May, seven countries or territories have reported cases of microcephaly or other serious birth \_\_\_\_\_ linked to the virus, which is transmitted by mosquito bite, blood transfusion or sexual contact with an infected human. It can also be passed from mother to fetus during pregnancy. Despite Zika's vast \_\_\_\_\_ over almost 70 years, there is little genetic difference among the various strains, according to an analysis by researchers at the University of Texas Medical Branch at Galveston. For example, the strain currently in the Americas and another previously detected in French Polynesia are practically indistinguishable from each other (group in white box). If the virus has changed so little over time, why is it rearing its ugly head now? Scientists are not sure yet, but new experimental work in mosquitoes suggests that the virus was capable of



\_\_\_\_\_ detrimental health effects and outbreaks all along. Therefore, it is unlikely mutations enabled new abilities. Instead, public health officials probably did not understand Zika's potential because the virus \_\_\_\_\_ mostly in remote locations until recently .

**Options:** disappeared, causing, range, rates, defects, affording, witness, circulated

**Answer:** defects, range, causing, circulated

27. One \_\_\_\_\_ feature of business is its economic character. In the world of business, we interact with each other not as family members, friends, or neighbors, but as buyers and sellers, employers and employees, and the like. Trading, for example, is often \_\_\_\_\_ by hard bargaining, in which both sides conceal their full hand and perhaps \_\_\_\_\_ in some bluffing. And a skilled salesperson is well - \_\_\_\_\_ in the art of arousing a customer's attention (sometimes by a bit of puffery) to \_\_\_\_\_ the sale. Still, there is an "ethics of trading" that prohibits the use of false or deceptive claims and tricks such as "bait-and-switch" advertising .

**Options:** distinguishing, compliant, engage, distribute, versed, extinct, gauge, informed, accompanied, clinch

**Answer:** distinguishing, accompanied, engage, versed, clinch

28. After centuries of inequality in UK higher education benefiting men, there has been a \_\_\_\_\_ over the past three decades. A lower proportion of entrants to UK higher education institutions are male than ever before and they make up less than one-half of the total. Other developed countries have \_\_\_\_\_ a similar shift. Male \_\_\_\_\_ is not seen only in the figures for entry but also in non-continuation (drop-out) rates and degree performance statistics.

**Options:** underachievement, phased, reversal, undergone, coincidence,



deceit, recovery

**Answer:** reversal, undergone, underachievement

29. Finding challenging or \_\_\_\_\_ employment may mean retraining and moving from a stale or boring job in order to find your \_\_\_\_\_ and pursue it. The idea is to think long range and anticipate an active lifestyle into later years -- perhaps into one's 80s or 90s. Being personally productive may now mean anticipating retiring in stages. This might indicate going to an alternate \_\_\_\_\_ should a current career end by choice or economic chance.

**Option:** passion, plan, rewarding, expensive, direction, emotion

**Answer:** rewarding, passion, plan

30. You have about 30 minutes to answer each question. You must take account of how many marks are \_\_\_\_\_ for each part when you answer it. Even if you think you can write more, don't spend 15 minutes \_\_\_\_\_ apart worth only 5 marks. Leave space at the end of your answer and come back to it if you have \_\_\_\_\_ to spare later. And if you can't think of an answer to some part, leave a space and move on to the next part. Don't write about something else if you don't know the correct answer – this is just a waste of your \_\_\_\_\_ time (and the examiner's).

**Option:** time, accelerated, routine, valuable, answering, available

**Answer:** available, answering, time, valuable

31. Reading is an active process, not a \_\_\_\_\_ one. We always read within a \_\_\_\_\_ context, and this affects what we notice and what seems to matter. We always have a purpose in reading a text, and this will shape how we \_\_\_\_\_ it. Our purpose and background knowledge will also \_\_\_\_\_ the strategies we use to read the text.

**Option:** predominate, specific, approach, digital, determine, passive, volume

**Answer:** passive, specific, approach, determine





32. Differential rates of price change can also shape consumption patterns. To \_\_\_\_\_ their needs and wants, consumers sometimes choose to \_\_\_\_\_ spending on a particular product or service with spending on an alternative product or service in response to a \_\_\_\_\_ price movement of the items.  
**Option:** convince, pending, satisfy, substitute, assure, relative  
**Answer:** satisfy, substitute, relative
33. Although for centuries preparations derived from living \_\_\_\_\_ were applied to wounds to destroy \_\_\_\_\_, the fact that a microorganism is \_\_\_\_\_ of destroying one of another species was not \_\_\_\_\_ until the latter half of the 19th century. When Pasteur noted the antagonistic effect of other bacteria on the anthrax organism and pointed out that this action might be put to \_\_\_\_\_ use.  
**Option:** convinced, capable, infection, material, therapeutic, established, contamination, matter  
**Answer:** matter, infection, capable, established, therapeutic
34. Ideas as well as people can take \_\_\_\_\_ stage at the right time and the right place. If new ideas are to have a wide-ranging \_\_\_\_\_, they had better occur at the right time - usually when old theories are worn out or have reached a dead \_\_\_\_\_. Then they make people think along new lines and in ways that may \_\_\_\_\_ in unexpected directions. These ideas needn't be new in themselves. They can be older, half-forgotten ideas brought back to life, or new combinations of \_\_\_\_\_ ones presented in a new light.  
**Option:** center, effect, end, familiar, front, unknown, lead, stop  
**Answer:** center, effect, end, lead, familiar
35. An investigation into the study habits of undergraduates was carried out by a \_\_\_\_\_ of researchers at a number of different universities. In all the universities \_\_\_\_\_ in the study, it was found that there were the \_\_\_\_\_ significant



differences between the habits of arts and science students. Not surprisingly perhaps, arts students read more \_\_\_\_\_, while science students tended to concentrate on a few core texts.

**Option:** core, heavily, involving, participating, same, staff, team, widely

**Answer:** team, participating, same, widely

36. An "Open Door" policy provides for maintenance in a certain territory of equal commercial and industrial rights for the nationals of all countries. As a \_\_\_\_\_ policy, it was first advanced by the United States, but it was \_\_\_\_\_ in the typical most-favored-nation clause of the treaties concluded with China after the Opium War (1839-42). Although the Open Door is generally \_\_\_\_\_ with China, it also received recognition at the Berlin Conference of 1885, which declared that no power could \_\_\_\_\_ preferential duties in the Congo basin.

**Option:** declaration, blatant, rooted, associated, disturb, specific, levy

**Answer:** specific, rooted, associated, levy

37. A Graphic Introduction was put together by northern artists, who have \_\_\_\_\_ discussions with scientists from the Supergen Bioenergy Hub in a \_\_\_\_\_ of striking images which imagine alternative futures and explain some of the technology \_\_\_\_\_ and how it might be put into practice.

**Option:** involved, distinguished, discriminated, interpreted, forsook, serial, series  
**Answer:** interpreted, series, involved

38. Most chapters have a mixed exercise after the main work of the chapter has been completed. This will help you \_\_\_\_\_ what you have done, either when you have finished the chapter or at a later date. All chapters \_\_\_\_\_ with some mathematical puzzles and practical investigational work. For this work you are encouraged to \_\_\_\_\_ your ideas with others.

**Option:** end, revise, share, team, downsize, mingle

**Answer:** revise, end, share



39. In many large urban areas with highly diverse and often \_\_\_\_\_ populations, identification and engagement with the local communication can be low, often confounded by a more general community with formal politics. Younger people in \_\_\_\_\_ are voting less and turning more to single issue politics and more direct and \_\_\_\_\_ understanding of political expression such as petition, demonstrating and direct action.

**Option:** immediate, contrast, improvisational, frolicsome, transient, embodiment

**Answer:** transient, contrast, immediate

40. Pre-Raphaelitism was Britain's most significant and influential 19th-century art movement. Founded in 1848, it \_\_\_\_\_ on a group of three young artists: William Holman Hunt, Dante Gabriel Rossetti and John Everett Millais. These artists sought to revive English art by radically turning away from the old studio \_\_\_\_\_ and bringing painting into direct \_\_\_\_\_ with nature. With an eye for absolute \_\_\_\_\_, every detail was now to have intense realist as well as \_\_\_\_\_ meaning.

**Option:** symbolic, delicacy, accuracy, counted, persuasive, centered, tradition, relation, contact, contract

**Answer:** centered, tradition, contact, accuracy, symbolic

41. An ice storm is a type of \_\_\_\_\_ when \_\_\_\_\_ rainfall comes down into the cold air and the water turned into \_\_\_\_\_. Once there were \_\_\_\_\_ than 16,000 households which had a blackout \_\_\_\_\_ an ice storm as the cables snapped with ice weighing on them.

**Option:** weather, cold, icy, more, during, rather, climate, before, ice

**Answer:** weather, cold, ice, more, during

42. University science is now in real crisis – particularly the non-telegenic, non-ology bits of it such as chemistry. Since 1996, 28 universities have stopped



offering chemistry degrees, according to the Royal Society of Chemistry. The society \_\_\_\_\_ that as few as six departments (those at Durham, Cambridge, Imperial, UCL, Bristol and Oxford) could remain open by 2014. Most recently Exeter University closed down its chemistry department, blaming it on "market forces", and Bristol took in some of the refugees. The closures have been blamed on a \_\_\_\_\_ in student applications, but money is a \_\_\_\_\_: chemistry degrees are expensive to provide - compared with English, for example - and some scientists say that the way the government concentrates research \_\_\_\_\_ on a small number of top departments, such as Bristol, exacerbates the \_\_\_\_\_.

**Option:** motive, witnesses, fall, rise, problem, funding, factor, predicts

**Answer:** predicts, fall, factor, funding, problem

43. Surely, reality is what we think it is; reality is revealed to us by our experiences. To one extent or another, this view of reality is one many of us hold, if only \_\_\_\_\_. I certainly find myself \_\_\_\_\_ this way in day-to-day life; it's easy to be \_\_\_\_\_ by the face nature reveals directly to our senses. Yet, in the decades since first \_\_\_\_\_ Camus' text, I've learned that modern science \_\_\_\_\_ a very different story.

**Option:** seduced, explicitly, implicitly, thought, imposes, introducing, encountering, thinking, tells

**Answer:** implicitly, thinking, seduced, encountering, tells

44. One of the questions we need to ask ourselves is: How much of the news is biased? Can we recognize bias? The fact is, despite the journalistic ideal of 'objectivity', every news story is \_\_\_\_\_ by the attitudes and background of its interviewers, writers, journalists, photographers and editors. That is not to say that all bias is \_\_\_\_\_, but it does exist. So how can we, as readers or viewers, \_\_\_\_\_ bias? Well, in the case of newspapers, it manifests itself in a



number of ways, such as what events are selected for inclusion or omission. The placement of the article, meaning its proximity to the front or back pages, is significant. The use of headlines, photographs and language are \_\_\_\_\_ examples.

**Answer:** influenced, deliberate, determine, further

45. Keith Haring began as an underground artist, literally. His first famous projects were pieces of \_\_\_\_\_ graffiti drawn in New York subway stations. Haring travelled from station to station, drawing with chalk and chatting with commuters about his work. These doodles helped him develop his classic style and he \_\_\_\_\_ so prolific, doing up to 40 drawings a day, that it was not long before fame and a measure of fortune followed. Soon, galleries and collectors from the art establishment wanted to buy full-sized pieces by Haring. The paintings \_\_\_\_\_ in price but this did not sit well with Haring's philosophy. He believed that art, or at least his art, was for everyone. Soon, Haring opened a store which he called the Pop Shop, which he hoped would attract a broad range of people. While somewhat controversial among street artists, some of whom \_\_\_\_\_ Haring of 'selling out', the Pop Shop changed the way people thought about the relationship between art and business.

**Answer:** stylized, grew, skyrocketed, accused

46. Mischel is the creator of the marshmallow test, one of the most famous experiments in the history of psychology, which is often cited as evidence of the importance of self-control. In the original test, which was administered at the Bing Nursery School, at Stanford, in the nineteen-sixties, Mischel's team would present a child with a treat (marshmallows were just one option) and tell her that she could either eat the one treat \_\_\_\_\_ or wait alone in the room for several minutes until the researcher returned, at which point she could have two treats. The promised treats were always visible and the child



knew that all she had to do to stop the agonizing wait was ring a bell to call the experimenter back – although in that \_\_\_\_\_, she wouldn't get the second treat. The longer a child delayed gratification, Mischel found – that is, the longer she was able to wait – the better she would fare later in life at numerous measures of what we now call executive function. She would \_\_\_\_\_ better academically, earn more money, and be healthier and happier. She would also be more likely to avoid a number of negative outcomes, including jail time, obesity, and drug use .

**Answer:** immediately, case, perform

47. Samuel Johnson's Dictionary of the English Language is one of the most famous dictionaries in history. First published in 1755, the dictionary took just over eight years to compile, \_\_\_\_\_ six helpers and listed 40,000 words. Each word was defined in detail, the definitions illustrated with quotations \_\_\_\_\_ every branch of learning. It was a huge scholarly \_\_\_\_\_, a more extensive and complex dictionary than any of its predecessors – the comparable French Dictionnaire had taken 55 years to compile and required the dedication of 40 scholars.

**Answer:** required, covering, achievement

48. Well, the banana is the first cultivated fruit. It's one of the food items that literally \_\_\_\_\_ people out of the jungle, out of their hunter-gatherer lifestyles and was there at the \_\_\_\_\_ of agriculture which is what helped force human beings into \_\_\_\_\_. It's really one of the things that helped invent human culture. It's about 7000 years of history, and the banana, from its center of \_\_\_\_\_, which is believed to be Papua New Guinea, spread out with people who traveled in boats across the Pacific into the mainland of Asia and all the way south to Australia across Indonesia and Micronesia and eventually they moved as far as Africa and even possibly to Ecuador all in this





time and all on \_\_\_\_\_ boats and wind driven boats.

**Answer:** brought, dawn, communities, origin, paddle

49. Finally, this study was \_\_\_\_\_ with students who were enrolled in lower level classes. Future research may \_\_\_\_\_ the findings of this study with other college students in upper level classes. This would help \_\_\_\_\_ if students' expectations, experience, and perceptions \_\_\_\_\_ constant or changed.

**Answer:** conducted, re-explore, determine, remain

50. In England it is well known that access to university, on average, varies substantially by the levels of parental income and that students from poorer families access different types of universities than those from wealthier backgrounds. However, the question of whether graduates' earnings vary \_\_\_\_\_ their socioeconomic backgrounds amongst graduates attending similar universities and taking the same subject has remained poorly understood, thus far limited by data availability. Our unique administrative database offers substantial advantages in addressing this crucial question. The findings are also relevant for myriad other issues that benefit from better information on variation in graduates' earnings, including: students' choices of subjects and institutions; better information for schools to help advise and guide students whilst at school; and the operation and cost of the higher education finance system.

**Answer:** according to, thus far, in addressing, variation, to help

51. Fans of biographical criticism have a \_\_\_\_\_ source in the works of Hans Christian Andersen. Like Lewis Carroll (and, to a lesser extent, Kenneth Grahame), Andersen was near-pathologically uncomfortable in the \_\_\_\_\_ of adults. Of course, all three had to work and interact with adults, but all three really \_\_\_\_\_ well to children and their simpler worlds. Andersen, for a time, ran a puppet theater and was incredibly \_\_\_\_\_ with children, and, of



course, he wrote an impressive \_\_\_\_\_ of fairy tales which have been produced in thousands of editions since the 19th century.

**Options:** body, company, convergent, comparison, related, popular, luxurious, disintegrated, spiracle, barren

**Answer:** luxurious, company, related, popular, body

52. Animals have played a major role in human's lives throughout history. Today, scientific research is trying to \_\_\_\_\_ the positive aspects of living with companion animals. Animals have been used as an \_\_\_\_\_ form of treatment for many years. More recently it has been discovered that owning a pet can help lower people's blood pressure, \_\_\_\_\_ the chances of living after a heart attack, keep people more active and provide more satisfaction with life. It is \_\_\_\_\_ that this happens because pets help people become more social, provide a means to give and receive \_\_\_\_\_, and help connect us with the natural world.

**Options:** alternative, affection, enhance, discover, decisions, different, theorized, preferential, acclaimed

**Answer:** discover, alternative, enhance, theorized, affection

53. The poem "The Road Not Taken" by Robert Frost is about the \_\_\_\_\_ that one makes in life. It tells about a man who comes to a \_\_\_\_\_ in the road he is traveling upon. He feels \_\_\_\_\_ that he cannot travel \_\_\_\_\_ paths as he must choose one. Frost uses this divergence in the road to represent a point in the man's life where he has to choose the \_\_\_\_\_ he wishes to take in life.

**Options:** direction, choices, both, foresee, each, fork, trail, patches, pleasant, sorry

**Answer:** choices, fork, sorry, both, direction

54. Montego Bay is the second largest city in Jamaica by area and the third by population. It is a lively and \_\_\_\_\_ beach resort and attracts a lot of



tourists from many different countries with its \_\_\_\_\_ beaches and \_\_\_\_\_ relaxing atmosphere. Many Americans and Europeans, as well as Jamaicans, have summer homes in Montego Bay, so it is a \_\_\_\_\_ city and becomes more \_\_\_\_\_ during the holiday seasons. It is most famous for Doctor's Cave beach, which has clear, turquoise waters.

**Options:** hospital, bustling, peaceful, cosmopolitan, sandy, crowded, polluted, facilities

**Answer:** bustling, sandy, peaceful, cosmopolitan, crowded

55. High emotional intelligence can help a manager \_\_\_\_\_ workplace communication skills, employee motivation and organizational effectiveness. If a manager has high \_\_\_\_\_, a key component of emotional intelligence, he or she will be able to \_\_\_\_\_ to the concerns of employees and will be more understanding of their needs, wants and concerns. This will most likely translate into \_\_\_\_\_ motivation and satisfaction of employees and ultimately will have a \_\_\_\_\_ effect on the effectiveness of the business.

**Options:** attach, improve, employed, empathy, positive, bland, listen, determiner, increased

**Answer:** improve, empathy, listen, increased, positive

56. David Lynch is professor and head of education at Charles Darwin University. And prior to this he was sub dean in the Faculty of Education and Creative Arts at Central Queensland University and foundation head of the University's Noosa campus . David's career in education began as a primary school teacher in Queensland in the early 1980's and progressed to four principal positions before entering higher education. David's research interests predominate in teacher education with particular interest in building teacher capability to meet a changed world.



**Options:** acted, beginning, campus, department, entering, began, progressed

**Answer:** campus, began, progressed, entering

57. Whether you want to exercise and stay \_\_\_\_\_, train professionally with like-minded people, or indulge your competitive streak, Trinity Sport and Fitness has it covered. We've got a dedicated support development team on campus to support every student taking part in sports. You might want to participate in sports competitions volunteer with a local sports class or simply play for \_\_\_\_\_ with our social sport program. Trinity fitness members of our public-facing sports facility will also entitle you to discounts when you are booking a sports facility and fitness class. You will also get an opportunity to \_\_\_\_\_ from tailored personal training, free activities events, and lots more.

**Options:** benefit, fit, health, sense, fun, part

**Answer:** fit, fun, benefit

58. It is important that scientists be seen as normal people asking and answering important questions. Good, sound science depends on \_\_\_\_\_, experiments and reasoned methodologies. It requires a willingness to ask new questions and try new approaches. It requires one to take risks and experience failures. But good science also requires \_\_\_\_\_ understanding, clear explanation and concise presentation. Our country needs more scientists who are willing to step out in the public \_\_\_\_\_ and offer their opinions on important matters. We need more scientists who can explain what they are doing in language that is \_\_\_\_\_ and understandable to the public. Those of us who are not scientists should also be prepared to support public engagement by scientists, and to \_\_\_\_\_ scientific knowledge into our public communications.

**Options:** vacant, hypotheses, dent, incorporate, arena, compelling, eponym,



contextual, illusive, ethos

**Answer:** hypotheses, contextual, arena, compelling, incorporate

59. Considered highly intelligent, \_\_\_\_\_ energetic, acrobatic and athletic, they frequently \_\_\_\_\_ with great success in sheepdog trials and dog sports. They are often \_\_\_\_\_ as the most intelligent of all domestic dogs. Border Collies continue to be employed in their traditional work of \_\_\_\_\_ livestock throughout the world.

**Options:** compete, herding, cited, extremely, compel, harboring, sighted, barely

**Answer:** extremely, compete, cited, herding

60. The speed of sound (otherwise known as Mach 1) varies with temperature. At sea level on a 'standard day', the temperature is 59°F, and Mach 1 is approximately 761 mph. As the altitude increases, the temperature and speed of sound \_\_\_\_\_ decrease until about 36,000 feet, after which the temperature remains steady until about 60,000 feet. Within that 36,000 – 60,000 foot range, Mach 1 is about 661 mph. Because of the \_\_\_\_\_, it is possible for an airplane flying supersonic at high altitude to be slower than a subsonic flight at sea level. The transonic band (the 'sound barrier') extends \_\_\_\_\_ around Mach 0.8 – when the first supersonic shock waves form on the wing – to Mach 1.2, when the entire wing has gone supersonic.

**Options:** via, towards, both, from, variation, differences, either

**Answer:** both, variation, from

61. For the past thirty years, the United States has been \_\_\_\_\_ what one observer (Samuelson 2001) has called a massive social experiment regarding the political and social consequences of increasing economic inequality. The share of national income going to families in the bottom 40 percent of the



income distribution \_\_\_\_\_ by about one-fifth, from 17.4% in 1973 to 13.9% in 2001, while the share going to families in the top 5 percent increased by more than one-third, from 15.5% to 21.0% (Mishel, Bernstein, and Boushey 2003). And \_\_\_\_\_, the share of income going to the top one-tenth of one percent quadrupled between 1970 and 1998, leaving the 13,000 richest families in America with almost as much income as the 20 million poorest families (Krugman 2002). The economic causes of technological change, demography and global competition are a matter of some scholarly controversy. But the important political point is that, whereas most rich democracies have significantly mitigated increasing economic inequality through government action, the United States has mostly been content to let economic trends take their course, doing less than almost any other rich democracy to \_\_\_\_\_ economic inequality through employment and wage policies, taxes, and transfers.

**Options:** conducting, declined, remained, reciprocating, thus, meanwhile, analyze, limit

**Answer:** conducting, declined, meanwhile, limit

62. Organic food production is a self- \_\_\_\_\_ industry with government \_\_\_\_\_ in some countries, distinct from private gardening. Currently, the European Union, the United States, Canada, Japan, and many other countries require producers to obtain special \_\_\_\_\_ based on government-defined standards in order to market food as organic within their borders. In the \_\_\_\_\_ of these regulations, foods marketed as organic are produced in a way that complies with organic \_\_\_\_\_ set by national governments and international organic industry trade organizations.

**Options:** financed, measurements, oversight, insights, standards, clearance,





certification, context, regulated

**Answer:** regulated, oversight, certification, context, standards

63. Management accounting is concerned with providing information and \_\_\_\_\_ to managers to help them plan, evaluate and control activities, in order to achieve an organization's \_\_\_\_\_. Whereas financial accounting is concerned with reporting on the past financial performance of an organization, management accounting is essentially concerned with improving its future performance. In order to understand the \_\_\_\_\_ and principles of management accounting it is necessary first to have some \_\_\_\_\_ of what managers do! This, in turn, requires an understanding of the organizations in which managers work – and of the external environment in which these organizations exist and operate.

**Options:** fames, category, appreciation, analysis, comparison, concepts, objectives

**Answer:** analysis, objectives, concepts, appreciation

64. This OpenLearn free course, therefore, looks at the \_\_\_\_\_ of organizations, specifically their objectives and structure. Organizational objectives and structure are key elements of organizations and they determine management \_\_\_\_\_ and responsibilities within the organization. The course also considers the main environmental factors (economic, social, political, legal and technological) that impact on organizational \_\_\_\_\_.

**Options:** behavior, investigation, nature, peril, obligations, functions

**Answer:** nature, functions, behavior

65. Our program will develop your \_\_\_\_\_ knowledge of Computer Science and your problem-solving and \_\_\_\_\_ skills, while enabling you to achieve the \_\_\_\_\_ qualification for the IT professional. The program structure is extremely \_\_\_\_\_, enabling you to personalize your MSc through a wide



range of electives.

**Options:** utmost, theoretical, uprising, ultimate, analogous, analytical, flexible

**Answer:** theoretical, analytical, ultimate, flexible

66. Of course there were many different Enlightenments, and scholars still argue about which was the real torch-bearer. However, despite their quarrelsome diversity, most Enlightenment thinkers shared certain intellectual traits - a / an \_\_\_\_\_ on intellectual autonomy, a \_\_\_\_\_ of tradition and authority as the infallible sources of truth, a \_\_\_\_\_ of bigotry and persecution, a \_\_\_\_\_ to free enquiry, a belief that (in Francis Bacon's words) knowledge is power.

**Options:** conclusion, proposal, commitment, dislike, belief, insistence, rejection, though

**Answer:** insistence, rejection, dislike, commitment, belief

67. A charge often leveled against organic agriculture is that it is more philosophy than science. There's some truth to this indictment, if that is what it is, though why organic farmers should feel \_\_\_\_\_ about it is itself a mystery, a relic, perhaps, of our fetishism of science as the only \_\_\_\_\_ tool with which to approach nature. The philosophy of \_\_\_\_\_ natural processes precedes the science of understanding them.

**Options:** mimicking, logic, supportive, defensive, credible, repeating

**Answer:** defensive, credible, mimicking

68. Considering their lingering reputation as man-killers, it's hardly surprising that hackles are raised any time someone brings up the idea of \_\_\_\_\_ wolves to the Scottish Highlands. Debate on this topic has been raging for years; \_\_\_\_\_ would like to see the Highland environment returned to its natural state. Opponents \_\_\_\_\_ the animals' \_\_\_\_\_ for killing livestock.

**Options:** activists, propensity, reacquainting, reintroducing, cite, proponents,



accuse

**Answer:** reintroducing, proponents, cite, propensity

69. The electrons that orbit closest to the nucleus are strongly \_\_\_\_\_. They are called bound electrons. The electrons that are farther away from the pull of nucleus can be \_\_\_\_\_ out of their \_\_\_\_\_. These are called free electrons. Free electrons can move from one atom to another. This movement is known as electron flow. Electricity is the movement or flow of electrons from one atom to another.

**Options:** orbits, sustained, forced, attracted, disclosed, angles

**Answer:** attracted, forced, orbits

70. Chemistry is a logical science. You can master the \_\_\_\_\_ concepts in any \_\_\_\_\_, but it's probably best to start from the \_\_\_\_\_ and work your way down, since many concepts build on understanding units, conversion, and how atoms and molecules interact.

**Options:** order, margin, top, essential, direction, roundabout

**Answer:** essential, order, top

71. In The Origin of Species, Darwin provided abundant evidence that life on Earth has evolved over time, and he proposed natural selection as the primary mechanism for that change. He observed that individuals \_\_\_\_\_ in their inherited traits and that selection acts on such differences, leading to \_\_\_\_\_ change. Although Darwin realized that variation in heritable traits is a prerequisite for \_\_\_\_\_, he did not know precisely how organisms pass heritable traits to their offspring. Just a few years after Darwin published The Origin of Species, Gregor Mendel wrote a groundbreaking paper on inheritance in pea plants. In that paper, Mendel proposed a model of inheritance in which organisms transmit discrete heritable units (now called genes) to their offspring. Although Darwin did not know about genes, Mendel's



paper set the stage for understanding the genetic differences on which evolution is based.

**Options:** form, growth, rough, differ, evolutionary, evolution

**Answer:** differ, evolutionary, evolution

72. Pidgins are languages that are born after contact between at least two languages. As many pidgins developed during the period of empire and international trade, one of the language parents was frequently a European language such as French or English, and the other language parent was the language of the people with whom the Europeans were \_\_\_\_\_ or whom they were colonizing. Usually one of the languages provided the majority of \_\_\_\_\_ items and the other provided the grammatical structure. When pidgins become learned as a mother tongue, they become \_\_\_\_\_ as creoles. I am not going to discuss pidgins and creoles and contact languages as such in this book in any \_\_\_\_\_.

**Options:** depth, bartering, trading, known, relation, fair, consonant, vocabulary

**Answer:** trading, vocabulary, known, depth

73. Most important of all is the fact that for each new ballet-pantomime created at the Paris Opera during the July Monarchy, a new score was produced. The reason for this is simple: these ballet-pantomimes told stories – elaborate ones – and music was considered an indispensable tool in getting them across to the audience. Well, \_\_\_\_\_, music had to be newly created to fit each story. Music tailor-made for each new ballet-pantomime, however, was only one weapon in the Opera's explanatory arsenal. And \_\_\_\_\_ was the ballet-pantomime libretto, a printed booklet of fifteen to forty pages in length, which was sold in the Operas lobby (like the opera libretto), and which laid out the plot in painstaking detail, scene by scene. Critics also took it upon



themselves to recount the plots (of both ballet-pantomimes and operas) in their \_\_\_\_\_ of premieres. So did the publishers of souvenir albums, which also featured pictures of famous \_\_\_\_\_ and of scenes from favorite ballet-pantomimes and operas.

**Options:** therefore, participants, revisions, thus, another, either, reviews, performers

**Answer:** therefore, another, reviews, performers

74. What is music? In one sense, this is an easy \_\_\_\_\_. Even the least musical among us can recognize pieces of music when we hear them and name a few canonical \_\_\_\_\_. We know there are different kinds of music and, even if our \_\_\_\_\_ of music is restricted, we know which kinds we like and which kinds we do not.

**Option:** volume, question, examples, knowledge, issue, classes

**Answer:** question, examples, knowledge

75. At the end of the last ice age, the melting ice disrupted the ocean currents in the North Atlantic and \_\_\_\_\_ a drop in temperature of almost 5 degrees. Even though the rest of the planet was warming \_\_\_\_\_, the North Atlantic region remained in a cold period for 1300 years. The same thing happened \_\_\_\_\_ 8000 years ago, when the cooling lasted about a hundred years, and it \_\_\_\_\_ happen again today. Even a short period of cooling in the North Atlantic could have a dramatic effect on the wildlife, and the human populations, living there.

**Option:** forwent, up, never, caused, could, around

**Answer:** caused, up, around, could

76. In search of lessons to \_\_\_\_\_ in our own careers, we often try to \_\_\_\_\_ what effective leaders do. Roger Martin says this focus is misplaced, because moves that work in one context may make little sense in



another. A more productive, though more difficult, approach is to look at how such leaders \_\_\_\_\_. After extensive interviews with more than 50 of them, the author discovered that most are \_\_\_\_\_ thinkers –that is, they can hold in their heads two opposing ideas at once and then come up with a new idea that contains elements of \_\_\_\_\_ but is superior to both.

**Option:** integrative, disdain, emulate, either, each, appoint, show, apply, think, communal

**Answer:** apply, emulate, think, integrative, each

77. Sydney is becoming effective in making the best of its limited available unconstrained land. Sydney is suitable for integrating suitable business, office, residential, retail and other development in accessible locations so as to maximize public transport \_\_\_\_\_ and encourage walking and cycling. Also, this city can reduce the \_\_\_\_\_ of land for housing and associated urban development on the urban fringe. For the proposed mixed business, mixed use and business park areas, there was no employment data available for \_\_\_\_\_ areas. It is also concluded that lack of housing supply will affect \_\_\_\_\_ in Sydney.

**Option:** consumption, patronage, comparable, alternative, expectation, affordability, contemporary

**Answer:** patronage, consumption, comparable, affordability

78. It's interesting that in our minds, we keep thinking of the \_\_\_\_\_ discovery like it's the Holy Grail. But there are a couple of shortcuts here that I'd like to unpack. I'm not a doctor, I'm just a \_\_\_\_\_. My clients focus on health care – biopharma companies, providers, global health \_\_\_\_\_ – and they've educated me. We need to find the tools to fight COVID, and we need to make them accessible to all.





Option: resident, valuable, stipulations, vacuum, \_\_\_\_\_, institutions, vaccine, consultant

Answer: vaccine, consultant, institutions, accessible

79. Active learning classrooms (ALCs) are student-centered, technology-rich classrooms. They are easily identified with their large \_\_\_\_\_ tables and movable seating designed to improve student \_\_\_\_\_ in class. Typically, each table is accompanied by a whiteboard and flat-screen monitor to display student work and larger rooms frequently have miniature bulb and microphones at each table. In this way, students are able to \_\_\_\_\_ if they have questions or want to speak to the \_\_\_\_\_ room.

Option: sign, circular, entire, engagement, partly, signal, arrangement, square

Answer: circular, engagement, signal, entire

80. Event management is particularly challenging from an operational viewpoint. In many cases, events are staged on sites where everything has been set up over a 24-hour period, with all elements carefully \_\_\_\_\_. In contrast, many events are years in the planning: large convention bids are often won five years before the event is held. For the very \_\_\_\_\_ bidding process, budgets need to be developed and prices quoted, requiring a good understanding of market, economic and political trends, as well as consumer choices. This long-term view is the basis of strategic management, which is covered in Part 1, and focuses on the event concept, feasibility of the event, legal compliance and financial management. Marketing is a critical \_\_\_\_\_ factor and other important topic of this first section, many events (sporting, cultural and arts) involving long-term sponsorship \_\_\_\_\_ with key industry players. Relationship building is particularly \_\_\_\_\_ since there are so many stakeholders involved in events, including government agencies at many levels. Part 1 will look at all these aspects, including strategic risk,



before moving on to the second part where operational planning and implementation will be covered in detail.

**Option:** success, challenging, repetitive, feasible, assimilated, alignments, overall, competitive, synchronized, arrangements

**Answer:** synchronized, competitive, success, arrangements, challenging

81. With the increase in women's \_\_\_\_\_ in the labor force, many mothers have less time \_\_\_\_\_ to undertake domestic activities. At the same time, there has been increasing \_\_\_\_\_ that the father's \_\_\_\_\_ with a child is important. A father can have many roles in the family, ranging from income provider to teacher, career, and playmate. Therefore, balancing paid work and family responsibilities can be an important issue for both fathers and mothers in families.

**Option:** relationship, efficient, roles, separation, shares, participation, recognition, available

**Answer:** participation, available recognition, relationship, roles

82. Chemistry is an extremely important topic in physiology. Most physiological processes occur as the \_\_\_\_\_ of chemical changes that occur within the body. These changes include the influx/efflux of ions across a neuron's membrane, causing a \_\_\_\_\_ to pass from one end to the other. Other examples include the \_\_\_\_\_ of oxygen in the blood by a protein as it passes through the lungs for \_\_\_\_\_ throughout the body.

**Option:** result, prerequisite, situation, signal, usage, storage

**Answer:** result, signal, storage, usage

83. The Nature Conservation Amendment Act of 1996 enables the Minister of Environment and Tourism to register a conservancy if it has a \_\_\_\_\_ committee, a legal constitution, which provides for the sustainable management and utilization of game in the conservancy, the ability to



\_\_\_\_\_ the funds, an approved method for the \_\_\_\_\_ distribution of benefits to members of the community and defined boundaries.

**Option:** manage, appropriate, exquisite, equitable, representative, legislative

**Answer:** representative, manage, equitable

84. Over 800 Shakespeare scholars from almost fifty countries will gather at King's College London next week as the university co-hosts the 10th World Shakespeare Congress to explore and honor the Bard's life and work. Organised by the International Shakespeare Association (ISA) the World Congress \_\_\_\_\_ held every five years and 2016 is the first time it will be co-hosted \_\_\_\_\_ two locations that were integral to both the personal and working life of William Shakespeare. Delegates will arrive in London on Thursday following the start of the Congress on Sunday in Stratford-upon-Avon. \_\_\_\_\_ a main theme of 'Creating and Recreating Shakespeare', the Congress will look \_\_\_\_\_ the continuing global relevance of Shakespeare's work through a varied program of plenaries, panels, seminars and workshops.

**Option:** With, Without, at, upon, is, was, in, to

**Answer:** is, in, With, at

85. In the process of studying these techniques, I learned something \_\_\_\_\_: that there's far more potential in our \_\_\_\_\_ than we often give them credit for. I'm not just talking about the fact that it's possible to memorize lots of \_\_\_\_\_ using memory techniques. I'm talking about a lesson that is more \_\_\_\_\_, and in a way much bigger: that it's possible, with training and hard work, to teach oneself to do something that might seem really \_\_\_\_\_.

**Option:** bizarre, information, remarkable, characteristics, demanding, minds, general, arduously, difficult

**Answer:** remarkable, minds, information, general, difficult



86. From the earliest civilizations, plants and animals have been portrayed as a means of understanding and recording their potential uses, such as their economic and healing properties, From the first \_\_\_\_\_ of medicinal plants, De Material Medica by Dioscorides, in the first century, through to the late fourteenth century, the illustration of plants and animals changed very little. Woodcuts in instructional manuals and herbals were often repeatedly copied over the centuries, resulting in a loss of definition and accuracy so that they became little more than stylized decoration. With the growing \_\_\_\_\_ of copperplate engravings, the traditional use of woodcuts declined and the representation of plants and animals become more \_\_\_\_\_. Then, with the emergence of \_\_\_\_\_ such as Albrecht Durer and Leonardo Da Vinci, naturalists such as Otto Brunel's, Leonhard Fuchs in botany and Conrad Gesner and Ulises Aldrovanda in zoology, nature began to be \_\_\_\_\_ in a more realistic style, Individual living plants or animals were observed directly and their likeness \_\_\_\_\_ onto paper or vellum.

Option: forms, excavated material, illustrated catalogue, popularity, sustainable, accurate, artists, depicted, rendered

Answer: illustrated catalogue, popularity, accurate, artists, depicted, rendered

87. Education is generally considered to be a key \_\_\_\_\_ in improving outcomes for Indigenous Australians, with many studies showings that improved \_\_\_\_\_ and socioeconomic status are directly \_\_\_\_\_ to educational participation and achievement. There is a range of issues \_\_\_\_\_ participation in education for Indigenous Australians, including \_\_\_\_\_ to educational institutions, financial constraints, and community expectations.

Option: factor, morality, health, trajectory, associated, linked, affecting, access



**Answer:** factor, linked, health, affecting, access

88. Chemistry is an extremely important topic in physiology. Most physiological processes occur as the \_\_\_\_ of chemical changes that occur within the body. These changes include the influx/efflux of ions across a neuron's membrane, causing a \_\_\_\_\_ to pass from one end to the other. Other examples include the \_\_\_\_\_ of oxygen in the blood by a protein as it \_\_\_\_\_ through the lungs for usage throughout the body.

Option: goes, result, neuron, signal, storage, rectifies, passes

**Answer:** result, signal, storage, passes

89. Work-ready international students are providing greater options for local employers who are having difficulties finding local staff due to \_\_\_\_\_ employment rate and \_\_\_\_\_ labor shortages, international students in accounting and information technology take part in a year-long program consisting of classroom work and practical experience, which provides them with \_\_\_\_\_ skills, industry contacts and a working \_\_\_\_\_ of Australian workplaces.

Option: lower, local, high, abandoned, transitory, ongoing, valuable, knowledge

**Answer:** high, ongoing, valuable, knowledge

90. Surely, reality is what we think it is; reality is revealed to us by our experiences. To one extent or another, this view of reality is one many of us hold, if only \_\_\_\_\_. I certainly find myself \_\_\_\_\_ this way in day-to-day life; it's easy to be \_\_\_\_\_ by the face nature reveals directly to our senses. Yet, in the decades since first \_\_\_\_\_ Camus' text, I've learned that modern science \_\_\_\_\_ a very different story.



Option: surprisingly, impressively, implicitly, roughly, thought, have thought, thinking, thinks, seduced, supplanted, secured, supplied, encountering, copying, duplicating, enclosing, cheats, scales, tells, enlarges

Answer: implicitly, thinking, seduced, encountering, tells

91. The narrative of law and order is located fundamentally at the level of individual \_\_\_\_\_ and responsibility. Criminal acts are seen as individual issues of personal responsibility and culpability, to which the state responds by way of policing, prosecution, \_\_\_\_\_ and punishment.

This is but one level at which crime and criminal \_\_\_\_\_ can be analyzed. The problem is that so often analysis ends there, at the level of individual action, characterized in terms of responsibility, guilt, evil.

In few other areas of social life does individualism have this hold? To take but one instance, it would be absurd to restrict analysis of obesity, to individual greed. It should similarly be widely seen as \_\_\_\_\_ to restrict analysis of criminal justice issues to the culpability of individuals.

Option: adjudication, justice, considerate, award, image, guilt, absurd, feedback

Answer: guilt, adjudication, justice, absurd

92. From the mid-1890s a race was on between the merchant navies of the recently unified Germany, Britain and France. That race was to make the most luxurious and fastest ocean liners and it started with the Kaiser Wilhelm der Grosse, the first of fourteen four-stackers built between 1897 and 1921. The large vessels that followed each tried to outdo the previous one in terms of size and interior design. Using many of the most famous of interior \_\_\_\_\_, every part of the new ships was 'designed', from the cutlery to the China, from the furniture to the paneling, and from the bedrooms to the boat decks. Through Kronprinzessin Cecilie, Mauretania, Aquitania, Olympic, Titanic,





Imperator, Waterland, Ile de France, and Paris, the development and design of the ships grew grander and more luxurious. The process continued into the 1930s, with the Empress of Britain and the fabulously Art Deco Normandie, the finest and most expensive liner ever built, and designed to be a showcase for all that was France, as well as with the Queen Mary, a rather more traditional vessel, but one, \_\_\_\_\_, which pushed the boundaries of design away from the traditional country house look of the Edwardian era. Each new vessel brought with it the finest of interiors, from the plush and palatial to the modern look of the time. Even today, the influence of these floating \_\_\_\_\_ can still be seen in vessels such as Cunard's Queen Mary 2 and the multitude of new cruise vessels, all vying for the public's interest and affection. The large liners were truly floating palaces, and here, William H. Miller brings together a collection of fabulous images of the finest ships ever built, showcasing the style and elegance of a time when 'getting there was half the fun'.

Option: palaces, nonetheless, processors, rhythms, through, designers

Answer: designers, nonetheless, palaces

93. Barred owls can be found in \_\_\_\_\_ forests right across North America. They feed on small mammals, fish, birds and small reptiles \_ pretty much anything that comes their way. The barred owl grows up to half a meter tall and has \_\_\_\_\_ as a very adaptable nocturnal predator. And, \_\_\_\_\_ they have been long-thought to live in old-growth forests, they are now building up quite an \_\_\_\_\_ population. In Charlotte, North Carolina, barred owls tend to nest in the cavities of the numerous willow oak trees that line the city's streets. Far from being endangered, the owls have expanded their range; and now, in some places, conservationists are worried about the effects they might have on other \_\_\_\_\_ species.



Option: soared, concrete, distinguished, urban, whether, dense, whereas, emerged, native, overwhelming

Answer: dense, emerged, whereas, urban, native

94. As research has shown, emotions are contagious. And empaths are especially \_\_\_\_\_ to others' emotional energies. Because they're so attuned to others, they can get easily exhausted in crowds, be drawn into co-dependent \_\_\_\_\_, exhaust themselves trying to solve others' problems, or burn out from too much caregiving. Yet empathy is also a gift that brings greater \_\_\_\_\_ and understanding. Some of the finest therapists, doctors, nurses, professors, writers, designers, musicians, artists, and leaders in many have been empaths.

Option: confusion, relationships, issues, sensitive, resistant, insight

Answer: sensitive, relationships, insight

95. Deciding to go to business school is perhaps the simplest part of what can be a complicated process. With nearly 600 accredited MBA programs on \_\_\_\_\_ around the world, the choice of where to study can be overwhelming. Here we explain how to \_\_\_\_\_ the right school and course for you and unravel the application and funding process. "Probably the \_\_\_\_\_ of people applying to business school are at a point in their careers where they know they \_\_\_\_\_ to shake things up, but they don't know exactly what they want to do with their professional lives," says Stacy Blackman, an MBA admissions consultant based in Los Angeles. "If that's the case with you, look at other \_\_\_\_\_: culture, teaching method, location, and then pick a place that's a good fit for you with a strong general management program. Super-defined career goals don't have to be a part of this process."

Options: standards, except, hold, offer, choose, deprive, minority, want, majority, criteria

Answer: offer, choose, majority, want, criteria



96. The Classic Era of Mayan \_\_\_\_\_ came to an end around 900 AD. Why this happened is unclear; the cities were probably over-farming the land, so that a \_\_\_\_\_ of drought led to famine. Recent geological \_\_\_\_\_ supports this, as there appears to have been a 200-year drought around this time.

**Options:** research, time, argument, civilization, period, urbanization

**Answer:** civilization, period, research

97. For the first time Japanese researchers have \_\_\_\_\_ a real-life experiment that shows how some traffic jams appear for no apparent reason. They placed 22 vehicles on a single track and asked the drivers to \_\_\_\_\_ around at a constant speed of 30 kilometers an hour. At first, traffic moves \_\_\_\_\_ but soon the distance between cars started to vary and vehicles clumped together at one point on the track. But the jams \_\_\_\_\_ backwards around the track like a shock wave at a rate of about 20 kilometers an hour. Real-life jams move backwards at about the same speed.

**Options:** dangle, tramp, abruptly, spread, smoothly, cruise, sustained, conducted

**Answer:** conducted, cruise, smoothly, spread

98. Although not written about extensively, a few individuals have considered the concept and act of cheating in history as well as \_\_\_\_\_ culture. J. Barton Bowyer writes that cheating 'is the advantageous \_\_\_\_\_ of perceived reality. The advantage falls to the cheater because the cheated person misperceives what is assumed to be the real world'. The cheater is taking advantage of a person, a situation, or both. Cheating also \_\_\_\_\_ the 'reality' or what others call 'deception'. Deception can involve hiding the 'true' reality or 'showing' reality in a way intended to deceive others.

**Option:** contemporary, meet, who, distortion, cover, shade, but, involves

**Answer:** contemporary, distortion, involves



99. Genius, in the popular conception, is inextricably tied up with precocity - doing something truly creative, we're inclined to think, requires the freshness and exuberance and energy of youth. Orson Welles made his masterpiece, "Citizen Kane," at twenty-five. Herman Melville wrote a book a year \_\_\_\_\_ his late twenties, culminating, at age thirty-two, with "Moby-Dick." Mozart wrote his breakthrough Piano Concerto No. 9 in E-Flat-Major at the age of twenty-one. In some creative forms, like lyric poetry, the \_\_\_\_\_ of precocity has hardened into an iron law. How old was T. S. Eliot when he wrote "The Love Song of J. Alfred Prufrock" ("I grow old ... I grow old")? Twenty-three. "Poets peak young," the creativity researcher James Kaufman maintains. Mihály Csíkszentmihályi, the author of "Flow," agrees: "The most creative lyric verse is believed to be that written by the young." According to the Harvard psychologist Howard Gardner, a leading \_\_\_\_\_ on creativity, "Lyric poetry is a \_\_\_\_\_ where talent is discovered early, burns brightly, and then peters out at an early age."

**Option:** through, by, figure, importance, living, domain, authority, dominance

**Answer:** through, importance, authority, domain

100. With about one and a half billion non-native speakers, English has become the world's own language. Such \_\_\_\_\_ has its downside, of course. There are now about 6,800 languages left in the world, compared with perhaps \_\_\_\_\_ that number back at the dawn of agriculture. Thanks, in \_\_\_\_\_ to the rise of über languages, most importantly English, the remaining languages are now dying at the \_\_\_\_\_ of about one a fortnight. Want to learn Busuu, anyone? Then you'd better head to Cameroon fast, before one of the language's last eight speakers kicks the bucket (as the Busuu-nese presumably doesn't say).

**Option:** major, important, dominance, twice, seven, part, pack, rate, increase

**Answer:** dominance, twice, part, rate



101. While many mothers-to-be are advised about the \_\_\_\_\_ of breastfeeding, what they may not be told is that the effects go well beyond physical health. A new study finds babies breastfed for long periods have better performance on intelligence tests, greater school achievement, and higher monthly incomes as 30- year-olds.

While past research has found higher intelligence \_\_\_\_\_ among breastfed babies, what is so significant about this study is that the researchers were able to collect more complete information on breastfeeding duration and also followed for a longer period. And, by using a population-based birth \_\_\_\_\_, the breast-feeding practices had no association with income level. Most of the evidence of higher intelligence test scores among breastfed babies comes from high-income countries, where middle-class and higher-class mothers are more likely to breastfeed their babies than lower income mothers- certainly in the United States, breastfeeding rates \_\_\_\_\_ this trend. With evidence coming from first-world countries 'Where breastfeeding is positively associated with higher socioeconomic status'. Horta explained, 'There is always a question of whether the effect that has been observed in other studies is a consequence of breastfeeding by itself or has the result been \_\_\_\_\_ by socioeconomic status.' Specifically, higher income babies are most likely eating better quality food and this could be impacting IQ test scores.

**Option:** addition, benefits, lack, scores, cohort, everyone, reflect, confounded

**Answer:** benefits, scores, cohort, reflect, confounded

102. New favorable traits evolve when genetic mutations arise that offer a survival edge. As the survivors of each generation pass on those beneficial mutations, the mutations and \_\_\_\_\_ adaptive traits become more common in the general population.



Though it may take millions of years for complex traits \_\_\_\_\_, say allowing humans to walk on two legs, evolution itself happens with each generation as adaptive mutations become more frequent in the population. The genomic revolution has allowed biologists to see the natural selection process \_\_\_\_\_ by making the genetic blueprint of hundreds of thousands of people available for comparison. By tracking the relative rise and fall of specific mutations \_\_\_\_\_ generations of people, researchers can infer which traits are spreading or dwindling.

**Option:** there, it, their, to fall, to evolve, high, in action, resolve, across

**Answer:** their, to evolve, in action, across

103. The fall of smallpox began with the realization that \_\_\_\_\_ of the disease were \_\_\_\_\_ for the rest of their lives, this led to the practice of variolation – a process of exposing a healthy person to infected material from a person with smallpox in the hopes of producing a mild disease that \_\_\_\_\_ immunity from further infection. The first written account of variolation describes a Buddhist nun practicing around 1022 to 1063 AD. By the 1700's, this method of variolation was \_\_\_\_\_ practice in China, India, and Turkey, in the late 1700's European physicians used this and other methods of variolation, but reported "devastating" results in some cases. Overall, 2% to 3% of people who were variolated died of smallpox, but this practice decreased the total number of smallpox \_\_\_\_\_, by 10-fold.

**Option:** survivors, patients, immune, provided, forsaken, common, recuperation, fatalities

**Answer:** survivors, immune, provided, common, fatalities

104. After an absence of more than 50 years, the gray wolf (*Canis lupus*) once again runs beneath the night skies of Yellowstone National Park. At 3:45 pm on March 21st 1995, the first of three groups of gray wolves (also known as the





timber wolf) were released from \_\_\_\_\_ acclimation pens at Crystal Creek within Yellowstone National Park. The wolf release plan, \_\_\_\_\_ in an environmental impact statement (EIS) in 1992–1994, is to restore wolves to Yellowstone and central Idaho by establishing experimental populations of gray wolves in both areas. The goal for Yellowstone is to establish 10 packs wolves reproducing in the area for three \_\_\_\_\_ years by the year 2002. Restoring wolves to Yellowstone is in keeping with national park goals to perpetuate all native species and their natural interactions with their environment. As with other park wildlife programs, management emphasizes \_\_\_\_\_ human impact on natural animal population dynamics. Yellowstone National Park is a wilderness and wildlife refuge in the United States.

Option: Additional, minimizing, regular, consecutive, involved, fenced

**Answer:** fenced, involved, consecutive, minimizing

105. You can study anywhere. Obviously, some places are \_\_\_\_\_ than others. Libraries, study lounges or private rooms are best. Above all, the places you choose to study should not be \_\_\_\_\_. Distractions can \_\_\_\_\_, and the first thing you know, you're out of time and out of luck Make choosing a good physical environment a \_\_\_\_\_ of your study \_\_\_\_\_.

Option: better, habits, member, show, part, traditions, build up, distracting, establish, attracting

**Answer:** better, distracting, build up, part, habits

106. Dolphins are \_\_\_\_\_ mammals found all over the world. There are many different species. They are well-known as intelligent \_\_\_\_\_) and seem to communicate with one another in \_\_\_\_\_ ways. Dolphins are sociable animals in that they live in groups. These can range in size from five to several hundred. They often \_\_\_\_\_ in groups and work together to capture the fish or squid they like to eat.



Option: strange, hunt, creatures, different, marine, learn, sophisticated

**Answer:** marine, creatures, sophisticated, hunt

107. Of the world's seven remaining species of marine turtles, almost all have been pushed to \_\_\_\_\_ levels. Hunting, habitat loss, plastics pollution, climate change, and accidentally being caught in fishing nets continue to threaten the \_\_\_\_\_ of these large and long-living creatures. Shell Beach, named after the shells that form its 90-mile \_\_\_\_\_, is a vital nesting ground for four of these marine turtle species.

**Option:** extinction, endangered, existence, engaged, extent

**Answer:** endangered, existence, extent

108. Many famous geographers and non-geographers have attempted to define the discipline in a few short words. The concept has also changed throughout the ages, making it difficult to create a \_\_\_\_\_, universal geography definition for for such a dynamic and all-encompassing subject. After all, Earth is a big place with many facets to study. It affects and is affected by the people who live there and use its \_\_\_\_\_. But basically, geography is the study of the \_\_\_\_\_ of Earth and the people who live there, and all that encompasses.

**Option:** concise, facets, complex, resources, surface, options, methods

**Answer:** concise, resources, surface

109. Based on collaborative research by Arizona's top business school's this study of leadership and company performance uncovers the effects of leadership driven by \_\_\_\_\_, cost control, and maintaining market share, versus leadership driven more by balancing employee relations and development, customer or \_\_\_\_\_, and the welfare of the greater community. Together, Mary sully de Luque, assistant professor of Management and Research Fellow at Thunderbird School of Global Management and David Waldman, director



of the Center for Responsible Leadership at ASU's school of Global management and Leadership, have found that maintaining a specific focus on earnings in \_\_\_\_\_ can have \_\_\_\_\_ on how a leader is viewed.

Option: profits, negative, effects, client, needs, decision, making

Answer: profits, client needs, decision making, negative effects

110. Secondary school can be a lonely place for \_\_\_\_\_ who don't have a best friend or a group of \_\_\_\_\_ friends. Young people will be more skilled in the art of making genuine friends (and keeping them) if they know how to be \_\_\_\_\_, are optimistic about life, have some basic social skills and have a relationship with a parent/care that includes \_\_\_\_\_ talk.

Option: assertive, grown-ups, assumptive, adolescents, apathetic, trusted, honest, royal basic

Answer: adolescents, trusted, assertive, honest

111. Pop mega-stars including Adele, Michael Jackson and Sir Elton John have all recorded music at the world-famous Metropolis Studios. Last year, the recording studios \_\_\_\_\_ compiling an album called 'Lost Songs', which features songs from relatively unknown musicians. First-year student Zak Taylor Fray decided to submit his song demo to be included in Volume Two of the Lost Songs album which was released this year, \_\_\_\_\_ he saw how successful Volume One had been. Zak 24, said: ' I found this competition when simply \_\_\_\_\_ the internet for songwriting competitions one day, and was lucky that there was still time to \_\_\_\_\_. It amazes me that people who have worked with

Option: set about, recorded, after, features, searching, included, saw, enter

Answer: set about, after, searching, enter

112. Changing English (Prediction) English has been changing throughout its lifetime and it's still changing today. For most of us, these changes are fine as



long as they're well and truly in the past. Paradoxically, we can be \_\_\_\_\_ about word origins and the stories behind the \_\_\_\_\_ we find in our language, but we \_\_\_\_\_ a queasy distaste for any \_\_\_\_\_ that might be happening right under our noses. There are even language critics who are \_\_\_\_\_ that English is dying, or if not dying at least being progressively \_\_\_\_\_ through long years of mistreatment.

Option: experience, facets, complex, resources, convinced, damaged, change, structure, curious

**Answer:** curious, structure, experience, change, convinced, damaged

113. Almost all public spaces nowadays have advertisements in sight, and all forms of media, from newspapers to the cinema to the Internet, are \_\_\_\_\_. with adverts. This all-pervasive presence \_\_\_\_\_. the value of advertising to us. Without it, businesses of all types and sizes would \_\_\_\_\_. to inform potential customers about the products or services they provide, and consumers would be unable to make \_\_\_\_\_. assessments when looking for products to buy and services to use. Without advertising, the promotion of products and \_\_\_\_\_. that contribute to our physical and psychological well-being—medicines to treat minor ailments, insurance schemes to protect us, clothes, and cosmetics to make us look and feel better— would be \_\_\_\_\_. more \_\_\_\_\_. than it is. And without advertisements and the \_\_\_\_\_. represented in them, the world would be a far \_\_\_\_\_. place.

Option: struggle, duller, infinitely, reflects, filled, practices, problematic, informed, aspirations

**Answer:** filled, reflects, struggle, informed, practices, infinitely, problematic, aspirations, duller

114. Surely, the reality is what we think it is; reality is \_\_\_\_\_ to us by our



experiences. To one \_\_\_\_\_ or another, this view of reality is one many of us hold, if only \_\_\_\_\_. I certainly find myself \_\_\_\_\_ this way in day-to-day life; it's easy to be \_\_\_\_\_ by the face nature \_\_\_\_\_ directly to our senses. Yet, in the decades since the first \_\_\_\_\_. Camus' Text, I've learned that modern science \_\_\_\_\_ a very different story.

**Option:** thinking, tells, revealed, reveals, encountering, seduced, extent, implicitly,

**Answer:** revealed, extent, implicitly, thinking, seduced, reveals, encountering, tells

115. More than simply putting flowers in a \_\_\_\_\_, ikebana is a disciplined art form in which nature and \_\_\_\_\_ are brought together. Contrary to the \_\_\_\_\_ of a particolored or multicolored \_\_\_\_\_ of blossoms, ikebana often emphasizes other areas of the \_\_\_\_\_, such as its stems and leaves, and puts emphasis on shape, line, and form. Though ikebana is an \_\_\_\_\_ of creativity, certain rules govern its form. The artist's intention behind each arrangement is shown through a piece's color \_\_\_\_\_, natural shapes, graceful lines, and the implied meaning of the arrangement.

**Option:** idea, arrangement, combinations, container, plant, expression, humanity

**Answer:** container, humanity, idea, arrangement, plant, expression, combinations

116. Two decades ago, Kashmiri houseboat-owners rubbed their hands every spring at the \_\_\_\_\_ of the annual influx of \_\_\_\_\_. From May to October, the hyacinth-choked \_\_\_\_\_ of Dal Lake saw flotillas of vividly painted Shikaras carrying Indian families, boho westerners, young travelers, and wide-eyed Japanese. Carpet-sellers \_\_\_\_\_ their skills, as did purveyors of



anything remotely embroidered while the house boats initiated by the British Raj provided unusual \_\_\_\_\_. Then, in 1989, separatists and Islamist militancy \_\_\_\_\_, and everything changed. Hindus and countless Kashmiri businesspeople \_\_\_\_\_, at least 35,000 people were killed in a decade, the lake stagnated, and the houseboats rotted. Any foreigners venturing there risked their \_\_\_\_\_, proved in 1995 when five young Europeans were kidnapped and murdered.

**Option:** waters, accommodation, bolted, prospect, honed, attacked, honed

**Answer:** prospect, tourists, waters, honed, accommodation, attacked, bolted

117. Away from the rumble of Shanghai's highways and the cacophony of the shopping districts, stroll downside streets filled with rows of tall brick \_\_\_\_\_. In the early evening or on a weekend morning, you'll hear the \_\_\_\_\_ of classical music \_\_\_\_\_ from a piano, played by a 10-year-old or a grandmother in her seventies. \_\_\_\_\_ down another alley toward concrete \_\_\_\_\_ and you'll hear Beethoven or Mozart flowing from a violin, or perhaps a cello, accordion, or flute. In China, classical music is \_\_\_\_\_ as mightily as the 1812 Overture.

**Option:** sound, skyscrapers, booming, drifting, houses, wander

**Answer:** houses, sound, drifting, wander, skyscrapers, booming

118. By 2025, government experts' say, America's skies will swarm with three \_\_\_\_\_ as" \_\_\_\_\_ planes, and not just the kind of traffic flying today. There will be \_\_\_\_\_ of tiny jets, seating six or fewer, at airliner \_\_\_\_\_, competing for space with remotely operated drones that need help avoiding midair \_\_\_\_\_, and with commercially operated rockets carrying \_\_\_\_\_ and tourists into space.

**Option:** thousands, times, satellites, collisions, many, altitudes,





**Answer:** times, many, thousands, altitudes, collisions, satellites

119. An ice storm is a type of \_\_\_\_\_. when \_\_\_\_\_. rainfall comes down into the cold air and the water turned into \_\_\_\_\_. . Once there is a serious ice storm when \_\_\_\_\_. than 16,000 households had a blackout \_\_\_\_\_. the ice storm as the ice storm would smash the cables.

**Option:** during, icy, weather, ice

**Answer:** weather, icy, ice, during

120. From a child's point of view, what is the purpose of TV advertising? Is advertising on TV done to give actors the opportunity to take a rest or \_\_\_\_\_. their \_\_\_\_\_.? Or is it done to make people buy things? Furthermore, is the main \_\_\_\_\_. between programs and commercials that commercials are for real, whereas programs are not, or that programs are for kids and commercials for adults? As has been shown several times in the literature (e.g., Butter et al. 1981 Donohue, Henke, and Donohue 1980 Macklin 1983 and 1987 Robertson and Rossiter 1974 Stephens and Stutts 1982), some children are able to \_\_\_\_\_. between programs and commercials and are \_\_\_\_\_. of the intent of TV advertising, whereas others are not.

**Option:** difference, aware, practice, lines, distinguish

**Answer:** practice, lines, difference, distinguish, aware

121. Genius, in the popular conception, is inextricably tied up with precocity—doing something truly creative, we're inclined to think, requires the freshness and exuberance and energy of youth. Orson Welles made his masterpiece, "Citizen Kane," at twenty-five. Herman Melville wrote a book a year \_\_\_\_\_. his late twenties, culminating, at age thirty-two, with "Moby-Dick." Mozart wrote his breakthrough Piano Concerto No. 9 in E- Flat-Major at the \_\_\_\_\_. of twenty-one. In some creative forms, like lyric poetry, the



..... of precocity has hardened into an iron law. How old was T. S. Eliot when he wrote "The Love Song of J. Alfred Prufrock" ("I grow old . . . I grow old")? Twenty-three. "Poets peak young," the ..... researcher James Kaufman maintains. Mihly Cskszentmihlyi, the author of "Flow," agrees: "The most creative lyric verse is believed to be that written by the young." According to the Harvard psychologist Howard Gardner, a leading authority on creativity, "Lyric poetry is a ..... where ..... is discovered early, burns brightly, and then peters out at an early age."

**Option:** creativity, talent, age, importance, domain, through

**Answer:** through, age, importance, creativity, domain, talent

122. Down the road, the study authors write, a better understanding of sharks' ..... may help scientists learn more about what drives their choice of things like prey and ..... . Some sharks are shy, and some are outgoing; some are ....., and some prefer to stick close to what they know, information that could prove useful in making sense of larger species-wide behavior .....

**Option:** adventurous, habitat, patterns, personalities

**Answer:** personalities, habitat, adventurous, patterns

123. Over the past two decades around a third of the world's mangrove swamps have been ..... for human use, with many turned into valuable shrimp farms. In 2007 an economic study of such shrimp farms in Thailand showed that the commercial profits per hectare were \$9,632. If that were the only factor, conversion would seem an excellent idea. However, proper ..... shows that for each hectare government subsidies formed \$8,412 of this figure and there were costs, too: \$1,000 for pollution and \$12,392 for losses to ecosystem services. These comprised damage to the supply of foods and



medicines that people had taken from the forest, the loss of habitats for fish, and less buffering against storms. And because a given shrimp farm only stays \_\_\_\_\_ for three or four years, there was the additional cost of restoring them afterwards.

**Options:** regenerating, study, estimated, accounting, productivity, productive, converted

**Answer:** converted, accounting, productive

124. Many tests have shown that, in a very broad way, peoples in most parts of the world have similar color preferences. Blue is the most preferred and popular hue, followed in order by red, green, purple, yellow and orange. Overlying this basic order of color preference, \_\_\_\_\_, are the responses of individuals, which of course vary \_\_\_\_\_ and may also be very powerful. Children are likely to have strong preferences for some colors and aversions to others, but sometimes will not admit to them, since outside \_\_\_\_\_ may be influential in determining both color preferences and the way that they are expressed or suppressed. Current fashions in clothes and accessories, gender-stereotyping and peer group pressure may all play a significant part. Boys in particular may be reluctant to admit to any strong preferences for colors \_\_\_\_\_ those of favorite football teams, because color awareness may be regarded by their peer-group as feminine.

**Options:** widely, however, other than, therefore, factors, thoroughly, counters, rather than

**Answer:** however, widely, factors, other than

125. If you hop a plane across several time zones, you may \_\_\_\_\_ up with circadian dysrhythmia. It's a temporary sleep disorder where your body's internal clock isn't in \_\_\_\_\_ with the time cues in your destination – daylight, dark of night, mealtimes. If you plan for it, you can do most of your \_\_\_\_\_ to



your destination a few days in advance.

**Option:** end, case, grow, sync, customizing, acclimatizing

**Answer:** end, sync, acclimatizing

126. Taking a daily multivitamin and mineral tablet may slow the \_\_\_\_\_ cognitive decline that happens naturally as we get older. The benefits of taking multivitamin pills have been \_\_\_\_\_ among doctors. They were once widely \_\_\_\_\_ as an "insurance policy" for people with poor diets, based on studies that found those who take them \_\_\_\_\_ to have better health.

**Option:** tend, determine, debated, annual, appeared, gradual, recommended

**Answer:** gradual, debated, recommended, tend

127. "Climate change is \_\_\_\_\_ rainbows now we know that's true," says Carlson, the lead author on a paper, which used computer models to \_\_\_\_\_ future rainbow-ready conditions. As major weather patterns \_\_\_\_\_ because of climate change, many parts of the world - particularly places nearer to the poles, like Alaska or Siberia, will get more rain- \_\_\_\_\_ adding dozens more rainbow-rich days by the end of the century.

**Option:** morph, preserve, significantly, potentially, affecting, simulate, stocking

**Answer:** affecting, simulate, morph, potentially

128. Extreme heat brings serious health risks, \_\_\_\_\_ for people who are elderly or have pre-existing conditions. Because of climate change, heatwaves are getting more frequent, more \_\_\_\_\_ and are lasting longer than ever before with deadly \_\_\_\_\_. During heatwaves, there is a higher \_\_\_\_\_ of death from cardiovascular and respiratory diseases.

**Option:** incidence, especially, flexible, intense, consequences, conflicts, necessarily

**Answer:** especially, intense, consequences, incidence



129. Renewable energy is energy \_\_\_\_\_ from natural sources that are \_\_\_\_\_ at a higher rate than they are consumed. Renewable energy sources are \_\_\_\_\_ and all around us. Fossil fuels, coal, oil and gas, on the other hand, are non-renewable resources that take hundreds of millions of years to \_\_\_\_\_.

**Option:** derived, plentiful, form, replenished, coordinate, committed, concerned

**Answer:** derived, replenished, plentiful, form

130. Internet cafes are particularly useful for travelers who don't want to \_\_\_\_\_ laptops along on their trip. In many countries where computers and internet access are not widely available or \_\_\_\_\_, cybercafes also provide an important service to the local population. Internet cafes usually \_\_\_\_\_ customers based on the amount of time they use a computer.

**Option:** equivalent, purchase, charge, affordable, carry, enable

**Answer:** carry, affordable, charge

131. The global economy is \_\_\_\_\_ to shrink by almost 3.2% this year, according to the IMF, which would be the largest \_\_\_\_\_ in economic activity since the Great Depression. In 2020 alone, millions of people could be \_\_\_\_\_ into extreme poverty, reversing the declining global trend of the last twenty-plus years.

**Option:** contraction, entered, integrated, pushed, collection, expected

**Answer:** expected, contraction, pushed

132. Farming is \_\_\_\_\_ the planet, but there could be a much more environmentally friendly way to feed ourselves: using renewable energy to \_\_\_\_\_ carbon dioxide into food. This is becoming a \_\_\_\_\_: a company is building the first commercial-scale factory, near Helsinki in Finland, that will be able to make food directly from CO<sub>2</sub>. It will \_\_\_\_\_ 100 tonnes per year, enough for 4 or 5 million meals.



Option: devastating, reality, produce, include, turn, operating, comment

Answer: devastating, turn, reality, produce

133. The Colorado river is the lifeblood of the US Southwest, but today it is drastically \_\_\_\_\_ due to overuse, megadrought and climate change. That is partly down to the \_\_\_\_\_ that people are taking too much water out of the river basin and partly down to a megadrought, \_\_\_\_\_ by climate change, which means the region the Colorado flows through is the driest it has been in 1200 years.

Option: depleted, idea, diluted, fact, exacerbated, conducted

Answer: depleted, fact, exacerbated

134. Everyone knows the pleasures of daydreaming. Whether \_\_\_\_\_ your next vacation or an ideal romantic partner, it is enjoyable to let your mind \_\_\_\_\_ into a stream of consciousness where \_\_\_\_\_ come alive. Better yet, research shows that, far from being a waste of time, daydreaming has all \_\_\_\_\_ of benefits and is particularly important for developing brains.

Option: aspirations, sorts, specify, envisioning, drift, receiving, qualities

Answer: envisioning, drift, aspirations, sorts

135. Protecting the tropical forests of the Congo Basin conserves these forests and their resources on which the local and \_\_\_\_\_ people of the region \_\_\_\_\_. The Congo Basin is home to the second largest tropical rainforest on Earth, which \_\_\_\_\_ as the green heart of Africa.

Option: serves, intend, depend, base, talented, indigenous

Answer: indigenous, depend, serves

136. The panda, with its \_\_\_\_\_ black and white coat, is adored by the world and \_\_\_\_\_ a national treasure in China. Pandas live mainly in temperate forests high in the mountains of southwest China, where they \_\_\_\_\_ almost entirely on bamboo. They must eat around 26 to 84 pounds of it every day.





Option: defensive, insist, subsist, narrated, distinctive, considered

Answer: distinctive, considered, subsist

137. One of the most basic forms of air pollution, haze, \_\_\_\_\_ visibility in many American cities and scenic areas. Haze is caused when sunlight \_\_\_\_\_ tiny pollution particles in the air, which reduce the clarity and color of what we see. Since 1988 the federal government has been \_\_\_\_\_ visibility in national parks and wilderness areas. In 1999, the government \_\_\_\_\_ a major effort to improve air quality in national parks and wilderness areas.

Option: simmers, monitoring, degrades, faced, organizing, announced, encounters

Answer: degrades, encounters, monitoring, announced

138. Around the world, severe droughts are \_\_\_\_\_ life for millions of people. Megadroughts have \_\_\_\_\_ a slow-moving disaster, as reservoir levels decline. In the Horn of Africa, the worst drought in 40 years has put more than 7 million people at \_\_\_\_\_ of famine.

Option: encountered, created, irritating, fault, disrupting, risk

Answer: disrupting, created, risk

139. Artificial Intelligence is rapidly \_\_\_\_\_ our world. Remarkable surges in AI capabilities have led to a wide range of \_\_\_\_\_ including autonomous vehicles and connected Internet of Things devices in our homes. AI is even \_\_\_\_\_ to the development of a brain-controlled robotic arm that can help a paralyzed person feel again.

Option: completing, growing, contributing, innovations, transforming, purposes

Answer: transforming, innovations, contributing

140. Scientists have established records spanning several decades that \_\_\_\_\_ normal ozone levels during natural cycles. Ozone concentrations in the



atmosphere \_\_\_\_\_ naturally with sunspots, seasons, and latitude. These processes are well understood and \_\_\_\_\_. Beginning in the 1970s, however, scientific evidence showed that the ozone shield was being \_\_\_\_\_ well beyond natural processes.

Option: depleted, predictable, curtail, performed, vary, detail, legible

Answer: detail, vary, predictable, depleted

141. Traditionally, when \_\_\_\_\_ a trip, travelers would have to use separate companies or services to book individual parts of a journey. This outdated system is considered to be inconvenient and philosophy aims to \_\_\_\_\_ for the consumer. The "Mobility as a Service" \_\_\_\_\_ the entire travel experience by moving away from the focus on companies and approaching travel as more of a service that can \_\_\_\_\_ to citizens' individual needs.

Option: approve, design, streamline, frustrating, cater, planning, marching

Answer: planning, frustrating, streamline, cater

Gurully



**LISTENING**





## SUMMARIZE SPOKEN TEXT

1. We have a long history to research on hospital design and patient recovery. A long time ago, people began to study therapeutic environments. For example, in 1855, Florence Nightingale recognized that color and form enhanced a patient's recovery. They found that fresh air and sunlight had positive impacts, and architecture also played as an important part. Views of the hospital's backyards can help patients rest well and sleep fast, and can also help relieve their stress and pain easily, because of the pleasant feelings caused by nature. Being Visited by friends or family members can help patients be better off sooner, as well as living alone in a single room. 90% of patients and nurses in hospitals agree that the well-designed hospital environment links to recovery rates.
2. We are from an organization called Nonhuman Rights Project, and we fight for legal rights of nonhuman animals. Drawing a line in order to enslave an autonomous and self-determining being is a violation of equality. We then searched through 80 jurisdictions. We chose the state of New York. Then we decided upon who our plaintiffs are going to be. We decided upon chimpanzees. We know the extraordinary cognitive capabilities that they have, and they also resemble the kind that human beings have. And so we chose chimpanzees, and we began to then canvass the world to find the experts in chimpanzee cognition. So now we needed to find our chimpanzee. Our chimpanzee, first we found two of them in the state of New York. Both of them would die before we could even get our suits filed. Then we found Tommy. Tommy is a chimpanzee. Tommy was a chimpanzee. We found him in that cage. We found him in a small room that was filled with cages in a larger



warehouse structure on a used trailer lot in central New York. And so on the last week of December 2013, the Nonhuman Rights Project filed three suits all across the state of New York using the same common law argument. The court didn't approve our appeal because they think chimpanzees are not humans even though they have cognitive skills. We proved to the court that chimpanzees also have cognitive capabilities, and they were not hearing us.

3. My lab works on the applications of synthetic biology, so we're very interested in doing useful things with biological systems. Up to now, life has evolved, and now we actually have the ability and the power to engineer it, to design it. And so I'm curious about what the natural world is going to look like in the future. So synthetic biology is sort of the next level of genetic engineering. So about 40 years ago, we being scientists and engineers, developed techniques to basically move pieces of DNA from one organism to another. And this was sort of done by physically cutting and pasting. Now we're moving beyond that where we can write DNA so we're no longer limited to the pieces. We can cut from one and put in another. We can chemically synthesize this DNA on a machine and put that into an organism. And now we can even create new organisms completely from scratch. So if you imagine a cell that's programmed to make a useful compound, say, material or drug, then what you have is basically a microscale manufacturing unit. It's basically a cellular factory. And the cool thing about cellular factory is that when you want more factories, you love that cell grow and divide. So in in the lab, if we have one bacteria, we put it in a flask. The next day we come in. We have millions, if not billions of bacteria.
4. The internet, the most powerful tool in terms of engineering made by humans, has the most complicated structure. What we call the Internet is made up of a lot of things, wires traversing the ocean, satellites and cell phone towers,



massive data centers sending packets of information all over and devices. The internet can be connected via a modem, or an ADSL switch center, to a local landline telephone exchange network. It can connect us from Sydney to Melbourne and then to the U.S.. However, it takes energy for the transmission system to transmit information. For example, the longer email you write, the more energy is consumed. Meanwhile, there are more than 30 billion things connected to the Internet, like cell phones, laptops, credit card readers, smart TV, and so on, and each of them requires electricity. In total, Internet-connected devices probably use around five percent of the world's electricity. And most of the electricity comes from burning fossil fuels, which release greenhouse gases into the atmosphere.

5. An essay is a chance to identify your read and learned. As a writer, you first need to collect many materials, then write an essay in four or five paragraphs, structures and quotes. If someone is searching for a book or article to read, he or she will decide from the very beginning whether this work is worth attention. If you want to wow your teacher, polish the introduction, especially the first couple of sentences. Add an essay hook—something interesting, funny, shocking, or intriguing to win the reader's attention. Build an emotional connection with your reader right from the start. A hook in the essay is a catchy sentence or paragraph in the impressive introduction which serves as an attention element and an important part. An excellent hook sentence is engaging and interesting; it is a perfect method to start an argumentative or persuasive essay. The hook for your essay often appears in the first sentence. The opening paragraph includes a thesis sentence. Some popular hook choices can include using an interesting quote, a little-known fact, famous last words, or a statistic.





6. Around the world, renewable energy use is on the rise and these alternative energy sources could hold the key to combating climate change. What is renewable energy? Renewable energy is generated from sources that naturally replenish themselves and never run out. The most common sources are solar, wind, hydro, geothermal and biomass. Over 80 percent of the total energy consumed by humans is derived from fossil fuels. However, renewables are the fastest growing source of energy in the world. Renewable energy has many benefits. First, it can combat climate change because it creates no direct greenhouse gas emissions. The only emissions that they produce are indirect, meaning those that result from manufacturing parts, installation, operation and maintenance. But even those are minimal.
7. With the concept of moral objectivism, what we're looking at is the idea that there can be some universal moral principles: some rules, some ideas and guidelines that are valid for all people in all social environments and all situations. The idea that we can essentially have some signposts or a road map to guide behavior is going to be consistent across all individuals. Now if we take a look at this in another perspective, we can come up with a view of moral absolutism. In the area of moral absolutism, basically, what we have is illustrated on the right-hand side of this slide, is a very firm and unyielding boundary between what is right and what is wrong. And so, within moral absolutism, basically what you have are these non-overridable principles. They must be followed. They must never be violated and there were no exceptions. It is always right. It is always wrong. And nothing is subject to interpretation, and nothing is dependent upon the situation.
8. In recent decades journalism has been faced with challenges. So, what has happened to journalism? The rise of the Internet has a great impact on journalism, specifically the ways it is produced and consumed. Because the



Internet democratizes people, ordinary people can get involved in journalism. It takes steps for people to feel enthusiastic about the changes in journalism. The Internet not only speeds up spread of news, but also helps people gain information in various ways. Thus, journalism now becomes a collaborative process in an imaginary way, which is unexpected. For example, even small pieces of ordinary video can be of a new type of journalism.

9. What is precipitation? Clouds hold millions of tiny water droplets. Over time, a cloud can hold more and more tiny droplets of water and pieces of ice. Wind and temperature make the droplets and pieces bump into each other. They then group together; they get bigger and heavier until they are too heavy to stay in the cloud. They fall to the ground as something called precipitation. Precipitation can include rain, snow, hail or sleet. Precipitation can form into different types. This is because the differences in temperatures. If the air between the cloud and the ground is warm, the precipitation will fall as rain. If the rain freezes between the cloud and the ground, it becomes sleet. If the air is in the cloud and it blows very cold, the precipitation will fall as snow. Hail forms when ice crystals get blown upward inside of a cloud over and over. The ice will get bigger and bigger each time until it finally falls from the sky. Sleet is smaller than hail. Sleet falls in cold weather. Precipitation comes from storms. Thunderstorms are the most common type storm. They are caused when warm, wet air hits cold, dry air. The warm, wet air rises fast to form huge clouds.
10. There are 118 species of weaver birds, and most live in sub-Saharan Africa. While some species live on the open savannah and eat mostly seeds, others live in forests and prefer feasting on insects. Researchers looked at studies done on different species of weaver birds to examine the relationships between their diets, habits, and social behavior. They found that seed-eating



birds living in the open savannah tended to forage in groups, nest in large colonies, and have multiple mates per breeding season. The insect-eating, forest-dwelling birds, on the other hand, were more likely to forage and nest alone, and have a single mate per season.

These divergent social behaviors are likely influenced by their different diets and habitats. Working together makes it easier for birds that eat seeds out on the savannah to find spots with a large supply of seeds. There's also safety in numbers out on the open savannah, further incentivizing flocking. Their polygamous breeding may be a result of the smaller number of nesting sites in the savannah. By contrast, working together to find food wouldn't help forest-dwelling, insect-eating weaver birds as much, since insects tend to be more widely dispersed. There are a lot more suitable nesting sites in the forest, so these birds don't need to live in colonies, and monogamy makes sense for birds with more solitary lives. It seems that birds that eat bugs don't like to be bugged.

11. Dogs are noted for their extreme friendliness towards humans. They crave human company and gaze intently at their human companions. The partnership between dogs and humans stretches back tens of thousands of years into prehistoric times. It has worked out surprisingly well for dogs, who, with human backing, have become Earth's most abundant land carnivore. Dogs from wolves through a process of domestication by humans. Even when they are hand-raised by humans, modern wolves seldom show the degree of devotion to humans that dogs do. This has led scientists to suspect that the hypersociality of dogs towards humans is more than just a learned trait, and has to do with evolved genetic differences between dogs and wolves. In 2022 a team of American geneticists published findings identifying genetic differences between dogs and wolves that may be responsible for the special



canine attachment to humans. On chromosome number six of the dog genome, the researchers identified several genes associated with dog hypersociality. Interestingly, these genes correspond to parts of the human genome that also are involved in social behavior. Specifically, mutations in the corresponding part of the human genome can lead to a rare condition called Williams-Beuren syndrome. People with this syndrome have hypersocial behavior like that of dogs, along with certain cognitive deficits. Researchers have found evidence that dogs may have cognitive deficits like those of people with this syndrome. The findings might tell us about far more than just how social devotion to humans evolved in dogs. Given the genetic similarities, they tell us much about how social behavior evolved in humans.

12. When something angers us, humans have rapid cognitions that motivate us to improve our mood. But anger itself can inhibit our ability to reach equilibrium: we see this in how angry people ruminate on how bad they feel, or how they try to vent their anger and end up prompting aggression. So, there must be better ways to regulate emotion aside from ruminating and venting that help keep aggression at bay. And it turns out, that has a lot to do with how much a person is aware of and able to classify their emotions. This is called emotion differentiation. For example, if people lack the capacity to describe and classify what they are feeling at a given time, they will find it difficult to discern more detail about their emotions beyond the fact that they feel "bad." Low emotion differentiators are more distracted and less engaged during times of stress, and also less capable of thinking carefully about their options for how to behave under stress. High emotion differentiators spend less time on counterproductive practices, such as ruminating and venting. When people are better at differentiating their negative emotions, they have better emotional control, which means they have more ways of dealing with anger.



So, they're less likely to turn to aggression in the first place. Feeling angry is a part of life. But being aware of what kind of negativity you're feeling can help you control it and get over it.

13. Man's best friend has long worked alongside humans to guard, hunt, and herd. Research suggests that over thousands of years, some dogs got bigger due to the nature of their job: as important managers of livestock, early canines doubled in size to protect their flocks from predators. A study of ancient canine bone fragments and teeth in Croatia determined that 8,000 years ago, Neolithic farmers immigrated to the area with their furry friends in tow. This early breed weighed a little over 30 pounds. Two millennia later, at the start of the Bronze Age, dogs averaged about 40 pounds. By the Roman period, 2,000 years ago, dogs clocked in at more than 50 pounds. In other words, dogs went from the size of a large beagle to the size of a husky! That's some major growth in just 6,000 years. The increased size wasn't happenstance. Villages were becoming bigger, needing more land to grow crops. This meant livestock were pastured further from villages, often in the mountains. So, dogs' job responsibilities expanded as well: they not only had to travel long distances, they had to scare off hungry bears and wolves. Farmers, wanting the best guardians for their herds, selectively bred their dogs to be larger.
14. Human activities, such as burning fossil fuels, are warming Earth's climate. The climate crisis has widespread ramifications. Ecologists are worried that many species will become extinct, because they might not be able to adapt to a climate change that's faster than most naturally occurring ones. It's possible that some plants and animals could adapt by shifting their habitats towards Earth's poles, or towards higher elevations, to avoid the heat. Since ecosystems are varied and complex, ecologists can only find out by studying



many specific cases. A team of American ecologists explored this possibility for a species of hummingbirds native to North America's west coast, called Anna's Hummingbird. The researchers published their findings in 2022. Anna's Hummingbirds live in California's lowlands, but migrate up-slope into the cooler mountains during the summer. If climate warming continues, the team hypothesized, the birds might adapt by migrating farther up. To test whether this was really possible, the researchers studied the effects of relocating a group of Anna's Hummingbirds to a higher altitude. They captured the birds from across their normal range in the Sierra Nevada, and moved them to a research station near a mountain peak, four thousand feet higher than the birds normally venture. They found that the hummingbirds had big difficulties adapting to the lower air pressure and oxygen levels, which caused a drop in their metabolic rate and flight efficiency. Although the researchers still want to study the effects of longer exposure, their tentative conclusion was that it would be hard for the birds to adapt. Their results remind us how complicated an animal's environmental requirements are.

15. So happiness economics can help us get to these questions, and I'll try to give you some examples of this. Now, even though there's a lot of skepticism, originally about using this survey - surveys what people say make them happy. The number of reason that we are getting increasingly confident in doing so. One is that their consistent pattern - remarkable consistent pattern, determines well-being across large samples of people, across countries, across the world, and over time. Some of the basic things that make people happy, and I will show you some of these income health, marital status, employment status. Some of these very basic things are remarkably consistent across countries across world. So that gives us some sense that these surveys are picking up consistent patterns. And when we know what





consistent patterns are, we can look how other things that very much more, affect people's well-being. The environment and equality, the nature's institution raging on living, and all kinds of other things that very much more.

16. It turns out consumers are incredibly smart. They combine a lifetime of experience with that brand, combined with whatever its designed appeal is, how it makes them feel, performance and price. And they do all that in a few seconds. So brands are essential to our business to allow us to deliver the increased consumer value associated with our products. We're not into the generic business of toilet paper. We're into probably about the softest product you're going to want to buy. We're not into a generic soap. We're into the best, you know, stain removing laundry detergent you're going to buy. But we're going to want you to remember that as the tide brand. Now, that means there's a second moment of truth. If they do select you and they pay 50% more than they would have paid for Walmart's brand, when they get home, it'd better perform when it's used. And here's where the science starts, folks. There's an amazing number of fundamental engineering contradictions, right? Airplanes deal with, you know, weight and strength. I want something that's light but strong. That's an engineering contradiction. Once I deal with our things, got to be strong but soft. They have to be strong even when they're wet. Bright but not tear, liquids, mixtures, not common things, but they need... they can't separate. You don't want to shake before use, before you pour down in your washing machine.
17. Internet was invented by people who were good at programming, and people keep optimizing it for different purposes. So Internet has been growing organically. Internet can achieve many things but has advantages and disadvantages. The email system was designed by graduate students and researchers who know and trust each other. Using email needs trust between



the senders and the receivers as the authentication process was not originally built in this system. Email authentication is a technical solution to proving that an email is not forged. In other words, it provides a way to verify that an email comes from who it claims to be from. Email authentication is most often used to block harmful or fraudulent uses of email such as phishing and spam. In practice, we use the term "email authentication" to refer to technical standards that make this verification possible. Initially, the email system didn't consider security because there was no suspicion between them at that time, and there was no authentication process built into this system.

18. Design of buildings is important according to architectural textbooks. At its roots, architecture exists to create the physical environment in which people live, but architecture is more than just the built environment, it's also a part of our culture. It stands as a representation of how we see ourselves, as well as how we see the world. There are poorly designed buildings, but also some great building works. In the Victoria Era, architects designed buildings based on bricks and other materials. The design of flaws was based on lighting as it would not only affect appearance but also health conditions. The materials that buildings are made of also matter. For example, the design of ground floors must ensure that the building is able to withstand the weight of the higher levels. In the 20th century, many old buildings with design flaws were demolished or modified through a natural selection process, which means they are an altered state rather than an original state. This is an application of Darwin's theory of natural selection to modification of old buildings, which means buildings should adapt to the new world to survive, or be pulled down. So, it's argued to be unfair to criticize the demolition, although some people believe that whether to be remained should be decided based on their nature and functions. As the world became more and more connected, the styles



evolved, but even in modern construction, there is still an importance in honoring the cultural nuances in the built environment.

19. Research has shown that in certain situations silent meetings actually work better. Specifically, if the goal of a meeting is to brainstorm or solve a problem, silent meetings have been shown to generate better ideas. But why? Solutions to a problem will often be a novel idea and novel ideas challenge convention. They can rock the boat and make people feel uncomfortable. But when participants gather around a table and generate written solutions in silence, a safe space is created. Novel ideas can emerge and people are less afraid of feeling embarrassed. Silent meetings also circumvent negative effects of something called production blocking. In a conventional meeting, only one person at a time can speak. As you wait your turn, the conversation may shift and you may lose your opportunity to raise an idea. Silent meetings allow for everyone to express ideas simultaneously. So how do you create a silent brainstorming meeting? Have people write down their ideas independently then sort them into clusters, discuss, and vote on the ideas that people like. The key is to let the initial ideation phase happen independently and in silence so we can separate egos from ideas. Silence is just one alternative. Since meetings have different goals, there's no reason they all have to look or sound the same.
20. There are two kinds of stress. The first one is little stress, which happens in special circumstances such as exams or other competitions, and can be considered as a motivation to improve performances. You always think about stress as a really bad thing, but it's not. Look on the bright side, and some stress is good for you. Stress can be something that makes you better, but it is a question of how much, how long and how you interpret or perceive it. The other one is what we usually talk about, caused by poor time management.



Good time management is essential if you are to handle a heavy workload without excessive stress. Time management helps you to reduce long-term stress by giving you direction when you have too much work to do. It puts you in control of where you are going and helps you to increase your productivity. By being efficient in your use of time, you should enjoy your current work more, and should find that you able to maximise the time outside work to relax and enjoy life. Poor time management is a major cause of stress. I'm sure we have all had the feeling that there is too much to do and not enough time. We can start to feel panicky and anxious and lose focus. It's important to note that you can have this feeling even if there's hardly anything to do at all. Hence, to release such stress, people could use a calendar to schedule and find a balance between play and work.

21. Because of the economic model, the newspaper industry has been shrinking drastically from the last 50 years of the 20th century in some states of America. Also as the economic model changed, newspapers increased the cash flow. However, there are still some newspaper industries losing money because of a decrease in advertising and buyers. They can't find buyers. Only a few newspapers have positive cash flow. Over 100 newspapers with cash flow in red had no money to publish the newspaper every day. Some of them published three days per week. Small-sized newspapers only published once a week and had to go online. Some newspapers even disappeared. The staff working in newspaper industry decreased by 30-60% or more.
22. For thousands of years, philosophers and astronomers and thinkers of all sorts have imagined that the universe, the space around us was rather like this floor in front of us. It was fixed and unchangeable and things happen on it, just as people walk around. So the stars, the comets, and the planets, and the other heavenly bodies moved around and traced down their parts on this



completely unchanging stage of space. In the 20th century, as the result of Einstein's work, that view of the universe was completely transformed. We began to understand that there was no absolutely fixed stage of space at all on which all celestial notions were played out. But in some sense on the larger scale in the universe, the space itself was in this state of a continuous dynamic change. That was a prediction made by Einstein. But wasn't Einstein Harold the owner of making the discovery that our universe was really like that.

23. In late 1990s, when management consultants wrote books with titles such as the war for talent, etc. There was a great deal of talk about the talent wars. And I think that was the bursting of the bubble with the bursting of the dot-com bubble and a sense of the people who had been the masters of the universe just a few weeks before we're out on the streets looking for jobs. I think this created a reaction, it gave me ideas that there was a war for talent. In fact, all of things we saw in the late 1990s are reasserting themselves now. All those shortages are reasserting themselves and the real reason the auditing was really the bursting of the bubble, not the shortages of talent. There are very profound structural forces which are creating these talent shortages, one is the fact that the nature of the economy is changing, it's putting more and more premium upon intellectual skills analytical skills, creative skills which are in short supply. So, there is a demand increase, but there is also a decrease in supply. Because we are seeing now the aging of the baby boom, the shirking of populations in Europe and Japan and not very long in China as well and the sort of stabilization of the population of the United States so we see a time when there is a greater demand for intellectual skills and slowing down in the supply of people who possess those skills and also a mismatch between the sort of things that people are learning



at school and university and the sort of things the economy is placing a premium on particularly with the shortage of trained people in the sciences and engineering. So for all sort of reasons, there's a premium on talent.

24. Well, that's one aspect of what's called, reducing government - modifying government, to be more precise. Another aspect of it is what's called -devolution - reducing - moving governmental power from the Federal to the State level. And that has a kind of a rationale which you hear all over the time - place. For example, there was an op-ed a couple of weeks ago in the New York Times by John Cogan - Hoover Institute at Stanford, who has pointed out what he called a philosophical issue that divides the Democrats from the Republicans. The philosophical issue is that the Democrats believe in big government and entitlements, and the Republicans believe in getting power down closer to the people, to the States, because they're kind of populist types.

Well, it takes about maybe three seconds' thought to realize that moving power down to the States, in funding and so on, is just moving it away from the people, for a perfectly elementary reason: there's a hidden part of the system - of the power system that you're not supposed to know about, or think about, and that's private power. Because of our mounting credit card debt and monthly payments that far exceed our family's incomes and my kids will also join the class of citizens who can't rely on their parents for college support. Do I wish I'd chosen another educational route? You bet. Perhaps trade school - I've thought that being a plumber might not be such a bad gig. But if your job aspirations require a four-year degree, take my advice and choose a college you can afford, both during and after graduation. Take a realistic look at your anticipated income, and factor in priorities that don't carry a price - like the spouse and children you might want to have some day.





I was overconfident that my student loan debt would pale in comparison to the lucrative writing career I'd enjoy after graduation. Now I'm paying for that decision - in more ways than I'd ever imagined.

25. I am going to talk today really mostly about what I do as a curator here at the National Museum of Australia, but I want to draw some kind of generalities from that in terms of how this series of curatorial practices if you like, tools, techniques and methods that I think could be of interest to your students and of interest to you in developing extension history courses. I want to talk about what I do as a curator and then from that also talk a little bit about the kinds of history that I think museums are particularly good at creating and communicating. I think this is something I would really like to discuss because it is not necessarily very well understood that museums as Dave insisted by putting up my quote in his slide, create a very particular kind of history.
26. Well, it's like, why is Australian housing is so expensive? Essentially, it's showing of how well the Australian economy has been doing over the last 15 years. We have had 15 years more or less of an uninterrupted economic growth during which average earning has been raised by close to 90 percent. While over the course of that period, the standard variable mortgage rate has roughly halved. That meant that the amount which a typical home buying household can afford to borrow under rules which aren't strictly applied as they used to be had more than doubled. Over the same period, rising immigration in falling average household size has meant that the number of households looking for accommodation has risen by about one and a half million. That's around 200 thousand more than the number of dwellings has increased by. So, you have had a substantial increase in the purchasing power of households. No net increase in the supply of housing enhances all that addition purchasing power has gone into pushing up the price of housing.



27. Before we consider international environmental law and climate change we need to consider domestic legislation, as it is within the sovereign states that international law is put into practice. This reflects the environmentalists' maxim, 'think globally, and act locally.' United Kingdom legislative control over the impacts of mans' activity on the environment is not new. As long ago as the reign of Charles II the main concern was the production of smoke from the burning of 'sea coal. Almost all areas of trade and industry were subject to very detailed legislative controls at that time, although some were governed by 'self- regulation' in the form of guilds, which regulated both supply and methods of production. However, the measures implemented were mostly ineffective because then, as now, the specifying of legal duties and standards without providing any appropriate enforcement merely indicated good intentions but were of little practical effect. The next stage was prompted by the Industrial Revolution with the urbanization of society and its profound effects on the environment. Local industrialists used the Adam Smith model to maximize their economic benefit, but this was to the detriment of the local environment with the operation of 'Gresham's Law' that is, the bad drives out the good. Those industrialists who were concerned for either the health of their employees or the local environment faced higher costs than their competitors. The result was the need for increasingly comprehensive statutory controls on the discharge of pollutants into various receiving media.
28. Laughter is one of the greatest therapies in combating adversity and whole communities and nations have frequently relied on humor to get them through the bleakest time. On August 13th, 1961, the barbed wire was rolled out of Berlin to create the Berlin Wall. For nearly 30 years until it was dismantled, wall jokes proliferated especially among those living in the east. Laughing was all that was left. Jokes about those who rule and sometimes those who tyrannize



you are a form of folklore that is existed in societies as seemingly different as communist Eastern Europe, Czarist Russia, modern Egypt, 12th century Persia and modern day (Iran). Humor can also be wonderfully subversive. They can protect self-respect and identity. In more totalitarian societies laughter relieves, at least temporarily, the pressures and anxiety of political oppression. Political jokes may not in themselves topple dictators, but they can provide solace. In a democracy like our own, perhaps the trouble with political jokes is that they sometimes get elected.

29. So today we're going to finish talking about the fat soluble vitamins. I'm going to start with Vitamin D. And I think probably most of you know that Vitamin D is called the sunshine vitamin. And it's called that because there's absolutely no dietary need for vitamin D if you get adequate sunshine. And the real important word there is –it is because it turns out that in climates which aren't near the equator there's a big question as to whether or not using these you get adequate sunshine. And that's important because foods are not naturally abundant in vitamin D. And that's why milk is fortified but the fortification may not be enough. So again just exposure to sunlight is adequate, no need for vitamin D. So Vitamin D really isn't the Vitamin, it's a prohormone when human beings evolve, we evolved in tropical climates and ran around naked. There was plenty of skin exposure to sunlight. And so there was no dietary need for Vitamin D. As humans migrated away from that tropical region, they actually created a need for Vitamin D in food because sunlight was inadequate, particularly during the winter.
30. Last month I published alongside my annual report a subject report on the development of citizenship in schools. The report celebrates the success of some schools in implementing the citizenship curriculum. It praises those schools where there have been substantial developments in the subject, and



which now go a long way towards fulfilling national curriculum requirements. In the report we are critical of schools which have not taken citizenship seriously, either through reluctance or lack of capacity to make appropriate provision in the curriculum. Citizenship is marginalized in the curriculum in one fifth of schools. It is less well established in the curriculum than other subjects, and less well taught and some critics have seized on this as a reason for wanting to step back from supporting it. Yet, the progress made to date by the more committed schools suggests that the reasons for introducing citizenship are both worthwhile and can be fulfilled, given the time and resources. Indeed, those reasons are given added weight by national and global events of the past few months. While not claiming too much, citizenship can address core skills, attitudes and values that young people need to consider as they come to terms with a changing world.

31. Today, poems remain an important part of art and culture. We often talk about the knowledge about the literature in poem. Poetry is probably the oldest form of literature, and probably predates the origin of writing itself. The oldest written manuscripts we have are poems, mostly epic poems telling the stories of ancient mythology. The English language in poems and poetries is difficult to understand, often giving readers a feeling of frustration and making it hard for readers to enjoy poetry. This is because poems use literary expressions. Poetry was once written according to fairly strict rules of meter and rhyme, and each culture had its own rules. Some poems incorporate rhyme schemes, with two or more lines that end in like-sounding words. We should learn to simply enjoy it, and to know more about literature knowledge.
32. A leader can define or clarify goals by issuing a memo or an executive order, an edict or a fatwa or a tweet, by passing a law, barking a command, or presenting an interesting idea in a meeting of colleagues. Leaders can



mobilize people's energies in ways that range from subtle, quiet persuasion to the coercive threat or the use of deadly force. Sometimes a charismatic leader such as Martin Luther King Jr. can define goals and mobilize energies through rhetoric and the power of example. We can think of leadership as a spectrum, in terms of both visibility and the power the leader wields. On one end of the spectrum, we have the most visible: authoritative leaders like the president of the United States or the prime minister of the United Kingdom, or a dictator such as Hitler or Qaddafi. At the opposite end of the spectrum is casual, low-key leadership found in countless situations every day around the world, leadership that can make a significant difference to the individuals whose lives are touched by it. Over the centuries, the first kind—the out-in-front, authoritative leadership—has generally been exhibited by men. Some men in positions of great authority, including Nelson Mandela, have chosen a strategy of “leading from behind”; more often, however, top leaders have been quite visible in their exercise of power. Women (as well as some men) have provided casual, low-key leadership behind the scenes. But this pattern has been changing, as more women have taken up opportunities for visible, authoritative leadership.

33. The distinction between pyramid schemes and legitimate multi-level marketing can be particularly hazy In theory, the difference is that the members of the multi-level marketing companies primarily earn compensation from selling a particular product or a service to retail customers, while pyramid schemes primarily compensate members for recruitment of new sellers. In practice, though many multi-level marketing companies make it all but impossible for members to profit purely through sales And many pyramid schemes, like Vemma Nutrition, disguise themselves as legal multi-level marketing businesses, using a product or service to hide the pay-and recruit



structure Many pyramid schemes also capitalize on already existing trust within churches, immigrant communities, or other tightly knit groups. The first few members are encouraged to report a good experience before they actually start making a profit. Others in their network follow their example, and the schemes balloon in size before it comes clear that most members aren't actually profiting. Often, the victims are embarrassed into silence Pyramid schemes entice people with the promise of opportunity and empowerment. So when members don't end up making money they can blame themselves rather than the scheme, thinking they weren't tenacious enough to earn the returns promised Some victims keep trying, investing in multiple schemes, and losing money each time.

34. You sit down to take a math test, and you feel your heart beat faster and your palms start to sweat. You get butterflies in your stomach, and you can't concentrate. This phenomenon is called math anxiety, and if it happens to you, you're not alone. Researchers think about 20% of the population suffers from it. Some psychologists even consider it a diagnosable condition. But having mathematical anxiety doesn't necessarily mean you're bad at math - not even close Laurent Schwartz went on to win the Fields Medal, the highest award in mathematics. People might think that they're anxious about math because they're bad at it, but it's often the other way around. They're doing poorly in math because they're anxious about it. Some psychologists think that's because math anxiety decreases a cognitive resource called working memory That's the short-term memory system that helps you organize the information you need to complete a task Worrying about being able to solve math problems, or not doing well on a test, eats up working memory, leaving less of it available to tackle the math itself. People can suddenly struggle with even basic math skills, like arithmetic, that they've otherwise mastered.





35. OCD, which stands for obsessive compulsive disorder has two aspects: the intrusive thoughts, images, or impulses, known as obsessions, and the behavioral compulsions people engage in to relieve the anxiety the obsessions cause. The kinds of actions that people often associate with OCD, like excessive hand washing, or checking things repeatedly, may be examples of obsessive or compulsive tendencies that many of us exhibit from time to time. But the actual disorder is far more rare and can be quite debilitating. People affected have little or no control over their obsessive thoughts and compulsive behaviors which tend to be time consuming and interfere with work, school or social life to the point of causing significant distress. This set of diagnostic criteria is what separates people suffering from OCD from those who may just be a bit more meticulous or hygiene obsessed than usual.
36. Why do we sometimes fail to perform up to what we're capable of when the pressure is on? It may not be so surprising to hear that in stressful situations we worry. We worry about the situation, the consequences, what others will think of us. But what is surprising is that we often get in our own way precisely because our worries prompt us to concentrate too much. That's right—we pay too much attention to what we're doing. When we're concerned about performing our best, we often try and control aspects of what we're doing that are best left on autopilot, outside conscious awareness and as a result, we mess up. Think about a situation where you're shuffling down the stairs. What would happen if I asked you to think about what you're doing with your knee while you're doing that? There's a good chance you'd fall on your face. We as humans only have the ability to pay attention to so much at once, which is why, by the way, it's not a good idea to drive and talk on the cell phone. And under pressure, when we're concerned about performing at our best, we can try and control aspects of what we're doing that should be left



outside conscious control. The end result is that we mess up. My research team and have studied this phenomenon of overattention, and we call it paralysis by analysis.

37. So how does a growth mindset do that? It turns out that there are physiological manifestations to mindset. Brain scans show that for people with a fixed mindset, the brain becomes most active when receiving information about how the person performed such as a grade or a score. But for people with a growth mindset, the brain becomes most active when receiving information about what they could do better next time. In other words, people with a fixed mindset worry the most about how they are judged, while those with a growth mindset focus the most on learning. There are other consequences of mindset people with a fixed mindset see effort as a bad thing, something that only people with low capabilities need, while those with a growth mindset see effort as what makes us smart, as the way to grow. And when they hit a set-back or a failure, people with a fixed mindset tend to conclude that they are incapable So to protect their ego, they lose interest or withdraw. We observe that as lack of motivation. But behind it is a fixed mindset, whereas people with a growth mindset understand that set backs are part of growth. So when they hit one, they find a way around it. Like Josh Waitzkin did when he lost in chess or in martial arts.
38. There is a lot that we can do to change mindsets, but here are three things that any of us can do to instill a growth mindset in ourselves and in those around us. First, recognize that the growth mindset is not only beneficial but it is also supported by science. Neuroscience shows that the brain changes and becomes more capable when we work hard to improve ourselves. Second, learn and teach others about how to develop our abilities. Learn about deliberate practice and what makes for effective effort. When we understand



how to develop our abilities, we strengthen our conviction that we are in charge of them. And third, listen for your fixed mindset voice, and when you hear it, talk back with a growth mindset voice. If you hear, "I can't do it," add, "Yet. My request to you today is that you share this knowledge about the growth mindset with your family, friends, and schools so that all of us can go and fulfill our potential."

39. And empathy has two qualities: One is the understanding part of it. This is just a regular definition: the ability to understand and share the feelings of another. And the emotional part. Empathy has basically two channels: One is the body channel, If you talk with a sad person, you're going to adopt a sad expression and a sad posture, and before you know it, you feel sad. And that's sort of the body channel of emotional empathy, which many animals have. Your average dog has that also. That's why people keep mammals in the home and not turtles or snakes or something like that, who don't have that kind of empathy. And then there's a cognitive channel which is more that you can take the perspective of somebody else. And that's more limited. Very few animals, I think elephants and apes, can do that kind of thing. So synchronization, which is part of that whole empathy mechanism, is a very old one in the animal kingdom.
40. Loneliness creates a deep psychological wound, one that distorts our perceptions and scrambles our thinking. It makes us believe that those around us care much less than they actually do. It makes us really afraid to reach out, because why set yourself up for rejection and heartache when your heart is already aching more than you can stand? I was in the grips of real loneliness back then, but I was surrounded by people all day, so it never occurred to me. But loneliness is defined purely subjectively. It depends solely on whether you feel emotionally or socially disconnected from those around you. And I did.



There is a lot of research on loneliness, and all of it is horrifying. Loneliness won't just make you miserable; it will kill you. I'm not kidding Chronic loneliness increases your likelihood of an early death by 14 percent. Fourteen percent! Loneliness causes high blood pressure, high cholesterol. It even suppresses the functioning of your immune system, making you vulnerable to all kinds of illnesses and diseases.

41. One of the things I do in my psychology seminar is I assign papers to students and then I extract out propositions from the papers. And they're propositions that are debatable. Well, what you want to do as an educator is you don't want to put forward a specific point of view. Not when what you're trying to do is to discuss a contentious issue! What you want to do is teach people how to take an argument apart and formulate a response. And to do that it's actually extraordinarily useful to arbitrarily assign positions to people. It's like, I don't care what you think, you're "pro" on this topic, generate an argument. And what that does is it vastly widens people's conceptualizations of the argumentative space. Because most really contentious issues—gun control, abortion, those sorts of things—there is a lot to be said on both sides. They wouldn't be contentious issues otherwise. They're issues that don't go away. Well why? Well because they're so complex. They don't lend themselves to easy unitary solutions. One of the things you want to learn if you're educated is that on any complex subject there's a lot to be said. And that you're going to come at that with your particular ideological bias, let's say, your temperamental bias Maybe even you might even come at it with things you've actually thought about, although that's pretty damn rare. But you need to learn just exactly how localized your viewpoint is.
42. So the three things that I think it really takes to be an effective Manager or these. First of all, learn to delegate, you know The most important thing is you



have to trust your people to do work themselves and if you're in the business of overseeing every single decision they make you're not gonna be a very effective manager because you'll be stretched too thin and you'll certainly never be able to rise to higher levels of Management where you're overseeing dozens or hundreds or even thousands of people, so that's the first thing. The second is work hard to understand what the people underneath you do. They have this there's this tendency to think you know. If I came up through one skill as I oversee people with different skills. I'm just gonna trust them to get it right and you have to. Of course you're not gonna be able to understand what everybody on your team does all day but if you can understand their motivations, their terminology, their way of communicating. You're gonna be a lot better as a manager And finally, this is a kind of simple thing, but have as many one-on-one meetings as you possibly can. I think one thing that there's a lot of evidence is that having one-on-one meetings especially with your direct reports is one of the strongest predictors of success as a manager Big meetings aren't good. Little meetings can be very good. It's time consuming. It's hard, but it's a thing that really correlates with success as a manager.

43. Now, what's really interesting about this time is that because of coronavirus kids have all this time to self-reflect and self-assess. And so we should be actively promoting meta learning during this time. And so what I've suggested is that we promote the idea of a learning journal. So the idea is this. Let kids decide their own learning path Let them decide what they want to learn It could be if they want to learn how to cook. It could be they want to learn how to drive a car. It doesn't matter. What's important is that they write down their learning journey. And so there are three components to a learning journal. First is to define the goal concretely and precisely It's better to say I want to be able to run a marathon in less than four hours than it is to say I want to finish



first in a marathon. Second is to write down the learning process. So think of a cooking recipe and writing down how you cook something. The third and most important component of a learning journal is to write down your observations, collect data, self-reflect, and develop new learning strategies for yourself.

And during this process teachers don't go away Teachers play a very important role in that they become coaches. I would say that being a coach has three main functions. The first function is to motivate the student Second function is to identify witnesses in the learning journal. And the third and most important function is to constantly suggest new learning strategies.

44. I encourage people to provide feedback to one another. It's a gift. It's also often part of your job. But too often, we don't go far enough. So I suggest that we create psychological contracts. You don't do it with everybody, but it's an opportunity to agree to exchange extremely honest feedback by mutual consent in a safe and trusting way. I say to somebody who trust, whose opinion matters to me I'm getting up on stage. Let me know afterwards Was ! clear? Did I give too much information, too little information? Did I move too much? Did I engage with the audience? Tell me the truth." That's an immediate request for honest feedback and we are creating a psychological contract. You're not going out of bounds if you tell me exactly what you think. I also tell people if they're going into a meeting, pick the person who's going to pull on their ear to let you know you're going off topic, whether your data is really not holding up in that room and getting an immediate sense from somebody, the unvarnished truth about what's going on.
45. We know that the more comfortable we feel around someone, the less effort we will make about how we appear and conversely, the more anxious we are about the judgement of others, the more our reflection has the power to horrify us. The issue is never that of our appearance, it is about our sense of





our vulnerability to humiliation. When we meet people who are perpetually sick with worry that they are not attractive enough, we should not rush in with physical compliments, this is only to foster and unwittingly reward an aggravating criterion of judgement. We should learn to spot the wound in their early relationships that have made it so hard for them to trust that they could matter to others in their basic state. And that therefore perpetually evokes in them an unflattering self-image. They are not ugly per se, they were when it mattered-left painfully unloved and ignored to an extent that they are liable never to have recognized or mourned adequately, their arrival in the world did not delight a few people as it should have done, and therefore need compassion, sympathy and emotional validation far more than they will ever require the tools of outward beautification. Feeling ugly stems from a deficit of love, never of beauty.

46. When economists study gift giving, they're very concerned with one thing waste. Let's say hypothetically that my grandmother buys me a sweater that I hate, and your grandmother buys you a sweater that you hate. Sorry, grandmothers. Before long, we're talking about billions of dollars in waste in the economy Economists call it "deadweight loss and they estimate that up to 30% of the value of all gifts is wasted. That means the companies wasted time making the gift, It means the givers wasted time giving it out, and it means the recipients wasted time returning it. There's a way to fix this. There is a very specific gift that is always worth the exact same to both the giver and the receiver. It's called cash. The good thing about cash is that the receiver can always make use of 100 percent of its value. The bad thing about cold, hard cash is that it's cold. It doesn't say anything except, "Here take some money." So this is a conundrum.



47. Let's imagine you're about to hold a meeting to make an important decision. And you are in a hurry. Is it better to hold the meeting standing up or sitting down? Researchers from University of Missouri asked groups of people to imagine that they'd crashed on the moon, and then only a few pieces of equipment had survived the crash. The groups were asked to identify which bits of equipment were most important, and their decisions were compared to the correct answers supplied by NASA. Some of groups held their meeting standing up, and the others held them sitting down. Sit-down meeting lasted 34% longer, but two types of meeting produced the same number of correct decisions. And so next time you need to hold a meeting in order to make an important decision, you can save time by simply standing up.
48. So, why do humans feel awkwardness? According to Ty Tashiro, author of the appropriately titled book *Awkward* this is part of human evolution. In hunter-gatherer times, sticking with social norms, like saying thank you when someone gives you something, or waiting your turn for food, was a way to keep tight-knit groups together and keep out anyone who might be a threat. Today we're still sensitive to tiny, even silly social customs like responding to how are you with "fine as a sign of mutual respect. When you deviate from those norms, it's awkward And for some people, these social graces just don't come naturally Take eye contact, for example. Studies say the right amount of eye contact during conversations is about 3.3 seconds. But awkward people don't instinctively do that. But when we don't look people in the eyes, it makes them feel socially ostracized. According to Tashiro's work, awkward people tend to look at other parts of the face, like the chin or the ear more than the eyes. Therefore they might end up alienating the person they're talking to, and missing out on important information about how that person might be feeling. The good news is that if your brain isn't great at social cues,



it might be good at other stuff instead. Research shows that many autistic people are amazing at memory pattern recognition and problem solving.

49. When the Second World War came to an end, the British took some German civilians around the Belsen concentration camp. But why they do this? To show them what their own soldiers had done during the war. It was reported that one of the civilians had said "What terrible criminals these prisoners must have been to receive such treatment Not uttered by a guard, but by a civilian. The just world hypothesis is a cognitive bias in which we as human beings try to make sense of a world that is unfortunately unjust We like to believe noble acts lead to reward, and bad actions result in punishment So when we see bad things happen to good people and good to bad, there is a tendency to view such situations in a way that reduces this sense of guilt or discomfort.
50. Human beings in the West Savannah need each other in order to survive. In today's modern society, people need protection from other people too. was the first to acknowledge that. So if we agree that this is one of the first fundamental functions of society, we should in fact reject any human behaviour that goes against this theory. So it's true Beethoven was a rude and vulgar person, who probably suffered from the bipolar disorder Van Gogh lost his mind Other artists can be labelled as eccentric, anti social or even estranged from society. Nevertheless, as long as they don't cross over the line and breach the basic human contract, we may savour and rejoice the art and creations. This is why I am able to enjoy Beethoven's magnificent creations. Yet on the other hand, as a daughter of holocaust survivor I am unable to listen to the music, magnificent as it maybe of composers who believe, for example, in the final solutions of the Jews. An artist that breaches this contract, that endangers the freedom and safety of member of society, regardless of the religion, fate, believes, or background, by a direct action,



and this is very important, only by a direct action, should lose his place in society, together with a privilege platform, of which he presents his creativity and art. And along with this, the power, we attribute to it. Unless he regrets his action. Yes, apology can be accepted.

51. The main problem we have isn't an issue of actually doing the work It's just starting. Starting is the hardest part. So how do we make it easier? Take your large task and break it into something small. Once you think you've made it small, make it even smaller than that. Do the same with your time commitment. It's great that you blocked out the next three hours to do work, but guess what, studying for three hours is incredibly daunting. You do not want to do that. You want to watch Med School Insiders YouTube videos instead. Here's how you get past that you're not studying for three hours anymore. Instead, you're studying for only 25 minutes, which is a lot easier than 3 hours. After those 25 minutes are done, you're getting a break, guaranteed. Seems simple enough. This is the Pomodoro technique in action, and it is one of my favorite study hacks. Early on in the day, I generally like to knock out the difficult tasks first, since it makes the rest of the day a breeze. But I don't always get the luxury of doing that. There are instances where starting is so difficult, that there's no way I would be able to tackle the most daunting task first. In those instances, I start with something easy. That can be something as simple as doing my laundry or washing dishes. Once I've built the momentum of getting something small done, having a small victory, it becomes much easier to step it up to something a little bigger.
52. When Tim Berners-Lee invented the world wide web, he surely didn't anticipate that children would end up becoming some of its main users. Most start using the internet at the average age of three – and as recent research shows, children now spend more time playing and socializing online than



watching television programs. Given this change in habits, it is not surprising that a recent House of Lords report has raised online safety and behavior as an important issue. The report said that for children, learning to survive in a world dominated by the internet should be as important as reading and writing. The House of Lords Communications Committee also warned that children should not be leaving school without 'a well-rounded understanding of the digital world'. It also suggested that the government should think about implementing new legal requirements and a code of conduct companies would have to adhere to, which would help to bring the internet up to 'child-friendly standards'. Of course, trying to rectify this lack of child-centered design is not an easy task, but one that requires the cooperation and goodwill of many sectors. It will need to involve consultation with technology, education, legal and policy experts. And it would also be a good idea to make children and young people part of the process.

53. The idea behind recycling is simple By breaking old products down and converting them into something usable again, we conserve natural resources. It saves forests, cuts emissions, and means less pollution. Sadly it's not that simple. Recycling is deeply entwined with our economic system, and right now doesn't make much economic sense. It often costs more to recycle than it does to just throw things away, which is bad news for the environment. So is it worth paying for? Recycling saves serious amounts of energy, which in turn means lower greenhouse gas emissions. Making cans from recycled aluminium uses 95% less energy than mining and using raw materials. Recycling steel saves 60%, as does recycling paper So it boils down to how quickly we're able to remake the way we make things. As of 2018, we were track to generate waste at more than double the rate of population growth through 2050, so we can expect plenty more rubbish to pile up. Some communities are running



out of room to store all their trash and have stopped collecting plastic, paper and glass. Others are just sending material to landfills or burning it. Such issues have given environmentalists cause to suggest more radical approach is needed, saying we should rethink our relationship with material and be using less stuff in the first place.

54. Fish are important because they help maintain the health of marine ecosystems and provide support to other marine life. They are an important part of the food web because they are predators to smaller organisms and prey to marine mammals and seabirds globally. They also support humans. About 80 million tons of fish are harvested annually. This volume is enough to feed all Filipinos with their annual fish consumption for 20 years. And they're currently about 60 million people working in the fishing industry globally. But on a global scale, 33 percent of fisheries are overfished, meaning too many fish are being harvested. This may cause fish populations to become depleted and not able to recover. 67 percent are fully exploited, meaning additional fishing effort could lead to the fisheries collapse. Only 10 percent have room to grow, with just 10 percent of the fisheries having a room to grow. We might experience a global fishing crisis.
55. David Olivia Garcia is a co-host of New Mexico in Focus and is also the managing editor for the New Mexico Independent, which is an online news site, he says that the Internet has some great benefits for journalism. The Internet is this new, amazing medium. Not so new: it's been around quite some time now. But it's maturing as, among other things, a place for journalism. In a sense, the Internet allows you to tell stories better than in a newspaper or on television. For this reason, you can do it all online: you can have the written word, you can have still photographs, you can have video. You can link and kind of connect to the other journalism that has been done on a given topic.





So it's not like you're in a vacuum. The Internet has had a negative impact on these papers. However, John Fleck, who is a columnist for the Albuquerque Journal and also has his own blog, says that he doesn't think that's entirely the case. It really makes me more efficient as a journalist in terms of information gathering, confirmation, helping me get the background necessary to write a story. So it's really good for that.

56. I am going to talk today mostly about what I do as a curator here at the National Museum of Australia but I want to draw some generalities from that in terms of a series of curatorial practices, tools, techniques and methods that I think could be of interest to your students and to you in developing extension history courses. I want to talk about what I do as a curator and then from that also talk a bit about the kinds of history that I think museums are particularly good at creating and communicating. I think this is something I would really like to discuss because it is not necessarily very well understood is that I think museums, as Dave insisted by putting up my quote in his slide, create a very particular kind of history. It's not the kind of history that gets created in books or in dating films or in compositions, it's a very particular kind of history that grows out of the fact that museums are centrally interested and defined by their collections. I should say that is not an uncontested view of museums but it is certainly my view of museums. Curators try to understand material culture as evidence of other people's lives as a means to try to understand other people - what they look like, what they did, how they made a living, what they hoped for in their lives, how they tried to construct their world and why they made particular choices. One way in which curators differ from other historians is therefore in terms of how we interrogate the past, what elements we use to communicate the past. Most academic historians are trained very much in the discipline of words and they concentrate on words still today,



although it is changing a little bit. If you go through university history primarily you are encouraged to draw on things like archival accounts, manuscripts and now oral histories, and most of that work is actually promulgated in the form of books. There are also other kinds of historians. Obviously, filmmakers and photographers concentrate on creating images of the world and arranging them in meaningful sequences, but curators attend to objects. We look at objects as evidence of the past and try to arrange objects in meaningful ways called exhibitions.

57. What's the literal definition of "risk"? Business schools use risk analysis. So, what do you mean by "risk", and we need a dictionary? When you look at dictionary, this is literal, literal definition of risk. What it says is, the definition for example, the possibility of injury, a dangerous element or factor, chance of, degree or possibility of such loss, and so on. So, risk has two parts, as you look at the literal definition of risk. One part is the consequence of some kind of particular danger, hazard loss. And the other is about the probability, of it: chance and consequence, OK? And then at least just as English language concerns, when you look up the word of safe and safety, which you'll learn as, it's a little bit of a loop, a little circular argument that free from harm or risks, secure from danger, harm or loss, the condition of being safe and so on for all. And why we take out of it? At least when we talk about safe at least in English language, we are talking absolute something is safe, or it sounds safe.
58. Socialism - the word invented in the late 1810s, communism - the word first appeared in 1840. None of these things were words, much less ideologies before the French Revolution and the French revolution gives birth to much of the modern political world. Have you not wondered why we refer to the political left, and the political right? Does this have any inherent bodily signification? No. Left and right in politics comes from the original designation



of the Deputies who sat to the Left of the speaker's, podium and those who sat to the right of the speaker's podium in the National assembly of 1789-1790. The left were those who were seen as progressive wanting to change, the right were seen as those wanting to conserve elements of the old regime. It's time for this young loggerhead turtle to go to work. We can tether turtles in these little cloth harnesses, put them into this tank and dull swimming place. University of North Carolina biologist Ken Loman studies sea turtles that are programmed from birth for an extraordinary journey. Mother turtles buried the eggs on the beach and then returned to the sea and the eggs hatch about 50 to 60 days later. Support for the National Science Foundation, Loman is learning how these reptiles use the Earth's magnetic field to navigate a 5-to-10-year journey around the Atlantic Ocean. The turtles seem to inherit a set of responses that tell them what to do when they encounter specific magnetic fields at particular locations. This animal magnetism can be a lifesaver and one field off Portugal triggers the turtles to turn south. If they don't, they likely die, swept into frigid North Atlantic waters. In one lab test turtles responded to magnetic field similarly to what they would encounter off the coast of Florida. The great majority of them turned South East. This is an exciting finding because southeasterly orientation in this part of the world would presumably take turtles further into the Gulfstream. So, the turtles actually have what might be considered accrued global positioning system that is based on the Earth's magnetic field. And check out this experiment. These turtle moves may look odd. The turtles will actually act out their swimming behavior in air. But this wave simulator re-creates the first environmental cue hatchling turtles respond to. Swimming into waves is a highly reliable trick that the turtles used to guide themselves offshore.





59. Tissue engineering, what is it? It's an emerging field, interdisciplinary field that combines engineering and life sciences to create functional biological structures that can restore and improve tissue function. Examples include bladders, trachea blood vessels and if you look at it, printing as a technology has also gone through the revolution and well it's been around for hundreds of years. In the last couple of decades, it's been a new dimension. We can now print layer by layer in materials ranging from plastic to metal, to concrete, to chocolate, from the smallest scales to the largest. If you take 3D printing and we combine it with biology, we have bio-printing where the building blocks our cell aggregates where we called bio-ling particles that are composed of thousands of cells that can fuse together into different shapes. These geometries can include multi-layered sheets, such as skin, branching tubes for vasculature and the sophistication of this manufacturing technology improves daily to include different cell types and different shapes. And now why is it important, the pharmaceutical industry at the moment is in a moment of crisis. It spends more money each year on R&D, but has fewer drugs to show for it. It takes more than a decade, more than a billion of dollars to develop a new drug and the cost of a failure can be measured in hundreds of millions of dollars.
60. Canada is a country of the enormous natural resources. It is the world's largest exporter of forest products and a top exporter of fish, furs, and wheat. Minerals have played a key role in Canada's transformation into an urban-industrial economy. Alberta, British Columbia, Quebec, and Saskatchewan are the principal mining regions. Ontario and the Northwest (NWT) and Yukon Territories are also significant producer of uranium and potash, the third-largest of asbestos, gypsum, and nickel, and the fourth-largest of zinc. Oil and gas are exploited in Alberta, off the Atlantic coast, and in the northwest –



huge additional reserves are thought to exist in the high Arctic; oil price is making extraction profitable at a growing number of the country's deposit. Canada is also one of the world's top hydroelectricity producers.

61. Telescopes and eyes are both tools for collecting and detecting light. In fact, telescopes can be thought of as bigger, more powerful eyes. The type of lenses and mirrors and their arrangement determine some of the features of the telescope. The resolution of the telescope is a measure of how sharply defined the details of the image can be. The telescope's primary mirror may have a fraction. As a result, starlight is not brought to a focus at the same point, resulting in blurry images. The name 'telescope' covers a wide range of instruments. There are major differences in how astronomers must go about collecting light in different frequency bands. The telescope is widely used in the astronomy field because it is a digital detector, 100 times more efficient than our eyes. Now physicists have begun to develop a various quantum mechanism.
62. The Right Honorable Sir Winston Leonard Spencer--Churchill, KG, OM, CH, FRS, PC (November 30, 1874 – January 24, 1965) was a British statesman, best known as prime minister of the United Kingdom during the Second World War. At various times a soldier, journalist, author, and politician, Churchill is generally regarded as one of the most important leaders in British and world history. Considered reactionary on some issues, such as granting independence to Britain's colonies and at times regarded as a self-promoter who changed political parties to further his career, it was his wartime leadership that earned him iconic status. Some of his peacetime decisions, such as restoring the Gold Standard in 1924, were disastrous as was his World War I decision to land troops on the Dardanelles. However, during 1940, when Britain alone opposed Hitler's Nazi Germany in the free world, his stirring



speeches inspired, motivated, and uplifted a whole people during their darkest hour. Churchill saw himself as a champion of democracy against tyranny, and was profoundly aware of his own role and destiny. Indeed, he believed that God had placed him on earth to carry out heroic deeds for the protection of Christian civilization and human progress. A providential understanding of history would concur with Churchill's self-understanding. Considered old--fashioned, even reactionary by some people today, he was actually a visionary whose dream was of a united world, beginning with a union of the English-- speaking peoples, then embracing all cultures. In his youth, he cut a dashing figure as a cavalry officer as seen in the 1972 film *Young Winston* (directed by Richard Attenborough), but the images of him that are the most widely remembered are as a rather overweight, determined, even pugnacious looking senior statesman as he is depicted to the right.

63. Theater study is a difficult subject in the academy because it cannot be experimental and it is a mixture of literature and personal life experience. Theatre should show pure lives, although there will be new actors or directors. It is also a collection of different skills, such as writing and singing. To succeed in this subject, you need the knowledge of linguistics, sociology, archeology, physics, psychology, and philosophy. Theater study is interdisciplinary, and you need to be a linguist and archaeologist to fully understand theater study. If we move everything away, there are some intellectual and distinctive things left. What makes theater study distinctive is that it is an ongoing project that requires a study lifespan of 60 to 70 years.
64. For many, these have been vital considerations for the future of artificial intelligence. But British computer scientist Alan Turing decided to disregard all these questions. In favor of a much simpler one: can a computer talk like a human? This question led to an idea for measuring artificial intelligence that





would famously come to be known as the Turing test. In the 1950 paper, *Computing Machinery and Intelligence*, Turing proposed the following game. A human judge has a text conversation with unseen players and evaluates their responses. To pass the test, a computer must be able to replace one of the players without substantially changing the results. In other words, a computer would be considered intelligent if its conversation couldn't be easily distinguished from a human's. Turing predicted that by the year 2000, machines with 100 megabytes of memory would be able to easily pass his test. But he may have jumped the gun.

65. One of the most amazing things that have happened even in my lifetime is the prediction of cosmology. When I started out forty-odd years ago, we thought we knew that the universe began a big bang, some people doubted even then. We thought the universe was about ten or twenty billion years old. But now for really very sound scientific reasons, we can say that the universe did start in a Big bang and it's 13.8 billion years old. So it's not 14, it's not 13 because a decimal point in there and that's a stunning achievement to know that. And we also know that the laws of physics that apply to tiny particles inside atoms also explains what happened in the big bang, you can't have one without the other. A very neat example of this is that when you apply nuclear physics, that kind of physics to understand how stars work, you find out that the oldest star in the universe is about 13 billion years old. So their universe is just a little bit older than the stars. Fantastic, if we done it and counted in the other way around and said that the stars were older than the universe, we would say science was in deep trouble. But it's not, everything fits together and we know how the universe began, we got to know how the way it is. The future that it 'll suspects we don't know quite well what's going, but



we got some ideas, which are as good as those ideas we had 40 years ago about how big bang happened.

66. When the 90's was coming around, more and more normal people could get online. Thanks to the UK, the invention of HTML allowed people to create a wide variety of extraordinary works. During the first decade, people created web pages, learning resources and other online contents without normal factors, such as fears, religious concerns, advertisement, profitability or traditional promotion schemes. It is because they thought it was a good idea. Today in our class, we will discuss hyper text markup language, popularly known as HTML. It is the computer language device to allow website creation. These websites can then be viewed by anyone else connected to the internet. It is relatively easy to learn with the basics being accessible to most people
67. I think there is an intense competition at the moment to hire the most talented and most intellectually able people. There is a time when I think companies have many of the adventures in the world. That involves the companies' world. It was the bosses' world. Now I think it reverses the case. We have a shortage in talent base within countries and between countries, have an intense battle between companies to hire the most talented workers and also between countries, which are looking to recruit talented young people, talented young immigrants. We have this sense of immigrants being things that countries are battled to keep out, and immigrants want to get in, climb of the walls. I think the opposite isn't that the case. And the topic is that countries are trying to lure bright young people to get them to go to universities and get them to become immigrants. So, on many levels, talent is a premium. There is a shortage of talent, and so countries, companies, all sorts of organizations, of course, volunteer organizations as well as, are competing to hire the best and the brightest. You know we have a baby boom population which is aging. We



have an economy which is becoming more sophisticated. And so, for all those sorts of reasons, talent is a premium.

68. The first inhabitants in Australia were the ancestors of the present indigenous people. Whether these first migrations involved one or several successive waves and distinct peoples is still subject to academic debate, as is its timing. The minimum widely accepted time frame places presence of humans in Australia at 40,000 to 43,000 years Before Present, while the upper range supported by others is 60,000 to 70,000 years BP. In any event, this migration was achieved during the closing stages of the Pleistocene epoch, when sea levels were typically much lower than they are today. Repeated episodes of extended glaciation resulted in decreases of sea levels by some 100150 m. The continental coastline therefore extended much further out into the Timor Sea than it does today, and Australia and New Guinea formed a single landmass (known as Sahul), connected by an extensive land bridge across the Arafura Sea, Gulf of Carpentaria and Torres Strait. The ancestral Australian Aboriginal peoples were thus long established and continued to develop, diversify and settle through much of the continent. As the sea levels again rose at the terminus of the most recent glacial period some 10,000 years ago the Australian continent once more became a separated landmass. However, the newly formed 150 km wide Torres Strait with its chain of islands still provided the means for cultural contact and trade between New Guinea and the northern Cape York Peninsula. During the 1970s and 1980s around 120,000 southern Asian refugees migrated to Australia. During those twenty years, Australia first began to adopt a policy of what Minister of Immigration Al Grassby termed "multiculturalism". In 2004-05, Australia accepted 123,000 new settlers, a 40% increase over the past 10 years. The largest number of



immigrants (40,000 in 2004/05) moved to Sydney. The majority of immigrants came from Asia, led by China and India.

69. I wrote a letter last week talking about the work of the foundation, sharing some of the problems. And Warren Buffet had recommended I do that -- being honest about what was going well, what wasn't, and making it kind of an annual thing. A goal I had there was to draw more people in to work on those problems, because I think there are some very important problems that don't get worked on naturally. That is, the market does not drive the scientists, the communicators, the thinkers, the governments to do the right things. And only by paying attention to these things and having brilliant people who care and draw other people in can we make as much progress as we need to. So this morning I'm going to share two of these problems and talk about where they stand. But before I dive into those I want to admit that I am an optimist. Any tough problem, I think it can be solved. And part of the reason I feel that way is looking at the past. Over the past century, average lifespan has more than doubled. Another statistic, perhaps my favorite, is to look at childhood deaths. As recently as 1960, 110 million children were born, and 20 million of those died before the age of five. Five years ago, 135 million children were born -- so, more -- and less than 10 million of them died before the age of five. So that's a factor of two reduction of the childhood death rate. It's a phenomenal thing. Each one of those lives matters a lot.
70. Today the drilling rigs are operating in water that's three or four kilometres deep. Tomorrow they could go deeper still. But at some stage global production of oil will peak and begin a remorseless decline. The question is, how soon? I'm sure that we're talking here, decades. So, we're not hitting peak in 2010? We don't believe we are even in 2030. The worse case is that it's occurring now or very soon because the world is unprepared. It's absolutely



unprepared. There are no quick fixes in something like this. is a world addicted to cheap liquid energy facing the beginning of the end of the age of oil? In the ever spreading suburbs of Australia's great cities where mortgages are high and private transport indispensable, everyone's feeling the pinch.

71. OK. Another ancient Greek philosopher we need to discuss is Aristotle – Aristotle's ethical theory. What Aristotle's ethical theory is all about is this: he's trying to show you how to be happy – what true happiness is. Now, why is he interested in human happiness? It's not just because it's something that all people want to aim for. It's more than that. But to get there we need to first make a very important distinction. Let me introduce a couple of technical terms: extrinsic value and intrinsic value. To understand Aristotle's interest in happiness, you need to understand this distinction. Some things we aim for and value, not for themselves but for what they bring about in addition to themselves. If I value something as means to something else, then it has what we will call "extrinsic value", other things we desire and hold to be valuable for themselves alone. If we value something not as means to something else, but for its own sake, let us say that it has "intrinsic value", exercise. There may be some people who value exercise for itself, but I don't. I value exercise because if I exercise, I tend to stay healthier than I would if I didn't. So I desire to engage in exercise and I value exercise extrinsically ... not for its own sake, but as a means to something beyond it. It brings me good health.
72. A research on 7000 young students and children in the United Kingdom is about how they participate in their communities, how they form values with character education and what influence them most. The outcomes involve parents, friends, schools and siblings, and researchers figure out which factors are essential and more important than others. Successful schools depend on the resources and support of their communities and schools at the centre of



their communities are often the most successful schools. In turn, schools are vital to the social health of their local communities. Also, families are the first social unit in which children learn and develop. Good parenting can take different forms and be shaped by various social and cultural forces, but it invariably involves providing children with the support, care, love, guidance and protection that set the conditions for healthy physical, mental and social development. The research has also attracted attention and interest from many national policy makers and contacted me.

73. There are a number of possible purposes for a social network. You now have a good understanding of how to analyze the basic characteristics of your social network or that of another individual. Network is a social relationship which helps transfer information such as travelling from one place to another. It also helps people get to different destinations more quickly if they need to travel in a long distance or two destinations. It is suitable for old cities with high-density population like Paris. There are thousands of trips and too many travelers everyday in Paris. The transportation network in Paris provides thousands of public services and links them together. A good network can help people with long-distance or multideestination trips. In cities with high-density population such as Paris, people would better carefully plan their journeys by looking at the routes of the network in advance, to reduce the density of commuters at the same time.
74. But if you were to go to a library at the end Of the 1300s, or through the 1400s, you would probably find a book that was then, way more popular than those titles we still read, a book that purported to be a description of the world, a guide the traveling and distant lands of BC area and Almanac of everything that was just off the horizon. I am not talking about Marco Polo. No, I'm talking about something far, far weirder and far, far less tethered to reality, a volume





of medieval fantasy masquerading as a field guide called The Travels of Sir John Mandeville, supposedly the titular knight set out from England in the 1330s and embarked on a journey that would take him to the Middle East, Africa and Asia, though as it will become apparent, not a Middle East, not in Africa and not an Asia that we would recognize here in reality. No Mandeville spoke is not really about actually real foreign lands. It's about what European's thought that was just outside the bounds of their civilizations. It's about what's beyond that mountain range that marks the borders of the lands you know. It's about what medieval people thought the foreign looks like. And all of it is mysterious, alluring, and intimidating unknown.

75. Child language acquisition, three little words. So let's take them on at a time. Child, when to start being a child? For many people, language acquisition starts around about twelve months when kids say that first word, but don't forget the first year. At the first year, our first year of life is very important as well and indeed before you are born, remember there are couple of months before you are born, when you actually able to perceive in the womb, something of the language that's around you. So language acquisition starts earlier than most people think. And it also ends later than most people think. When does child language acquisition stop? Well, in a sense, you know, we are all children, we stay being children all in our lives. There is no obvious endpoint for learning sounds, of course, there is for learning grammar, there is for vocabulary, huh. I mean that goes on for the rest of our lives in million or more words in English. Most of us only have a vocabulary of 50, 60, 70 thousand words, whatever it is until there is always something to learn. So remember that two ends of child language acquisition are wider apart than some people think. That means there is more scope for studying in it than most people think.



76. The United States is considered the biggest food-wasting country in the world. Consumers collectively throw away more than all the retailers together in the US. In total, private US households waste around 43% of all food. According to "Save the Food", a national public service campaign, this could translate into an annual financial loss of \$1,500 for a family of four. In fact, over 40 million tons (36 million tonnes) of food ends up in landfills every year, worth more than \$161 billion. 60% of food waste comes from general consumption. There are two main sources of food waste. The majority of food waste comes from supermarkets, especially in the used-by section. The other factor is what people purchase and how they eat, so purchasing all items is not a good idea. Avoiding food waste efficiently along the supply chain and in all our households can result in a win-win scenario. Halving food waste could help meet the demand for nutrition of our growing population, and equally minimize the negative environmental effects of agriculture.
77. Mars is the fourth planet from the sun and the second smallest planet in the solar system after Mercury, named after the Roman god of the war. It is often referred to as a red planet because the iron oxide prevalent on its surface gives it a reddish appearance. Mars is a terrestrial planet with a thin atmosphere, having surface features reminiscent both of the impact crater of the moon, and the volcanoes, valleys, deserts, and polar ice caps of the earth. The rotational period and the season cycles of the Mars are likewise similar of those of earth, as it was the tilt that produce the seasons. Mars is the site of the Olympus Mons, the largest volcano and the second largest known mountain in the solar system, and the Valles Marineris, one of the largest canyon in the solar system. Until the first successful Mars flyby in 1965 by Mariner 4, many speculated about the presence of the liquid water on the planet surface. This was based on observed periodic variation in the light and



the dark patches, particularly in the polar latitude, which appeared to be seas and continents. Geological evidence gathered by the unmanned mission suggested that Mars once had large scale of water coverage on the surface on some earlier stages existence.

78. Both fruits and milk contain sugar, and this sugar is healthy sugar. Many people have heard that sugar is bad, and think that this must also therefore apply to fruits. Unhealthy sugar is normally found in desserts, ice cream etc. It's much easier to consume excess sugar from foods and drinks that contain 'free sugars'. Free sugars include these same sugars, but in this case they have been removed from their naturally occurring source, rather than being eaten as natural parts of fruits, dairy products, and some vegetables and grains. This includes sugar that is added to food and drinks by food companies, cooks or consumers. Many people drink juices, and this is a healthy approach. But directly eating fruits is better, because the human body can process it easily. It is better to eat a small piece of fruit, which our bodies can digest better rather than drink smoothies or more than half a cup of fruit juice because it is the same as drinking soft drinks.
79. The research shows that girls have a higher level of English results than boys in the same class, because boys and girls are different in learning styles, and their brain functions are different in mechanisms. Male students were detected to be significantly more aware of the developments in the field of physics than female students. According to the content analysis results concerning this finding, unlike female students male students were more interested in technological developments. This finding is not surprising when the passive social role of females and the general social structure in which they tend to more sociable fields are considered. This finding may have occurred due to the fact that males are generally more interested in





technology than females. Previous studies support this finding. Boys are more simplified, and teachers' teaching style normally suits girls better than boys. Teachers should find different teaching approaches respectively for boys and girls.

80. Approach and avoidance motivation is composed of three conceptually distinct components. Approach indicates a propensity to move toward (or maintain contact with) a desired stimulus, such as vocational plans. Avoidance indicates a propensity to move away from (or maintain distance from) an undesired stimulus in order to reduce anxiety. Motivation is defined as the energization and direction of behavior. The valence of stimuli is at the core of the distinction between approach and avoidance, with positively valenced stimuli typically leading to approach and negatively valenced stimuli typically leading to avoidance. Stimuli can be external or internal, implicit or explicit, conscious or non-conscious.
81. We have briefly looked at some of the problems involved in running a biggish city like, say, Melbourne, keeping the road and rail systems running, policing, providing food and housing, and so on. In another lecture, I'm going to deal with what we must no megalopolis - cities with populations of ten million or more. However, first I want to go back in history to when the population of cities could be numbered in the thousands rather than millions. One of the earliest theorists of the city was, of course, Plato, who created an ideal city in his text, *The Republic*. The population of this city would be around twenty-five to thirty thousand at most. Oddly enough, the same figures were chosen by Leonardo da Vinci for his ideal cities. Now, of these twenty five to thirty thousand inhabitants only about five thousand would be citizens. A reason for this might be that it is the largest number that could be addressed publicly at one time and by one person, and makes a voting system much easier to



manage. Also, perhaps the numbers are kept deliberately low because a large population would be harder to control, or because, in practical terms, fewer inhabitants are easier to feed from local supplies without having to depend on outside sources.

82. Absolutism is referred to as the claim that there is a universally valid moral system. Such a system applies to everyone, whether they realize it or not. Also, it contains rules, guidelines, and principles, which are all universal. It acts as a road map guiding individual and social behaviors. Some principles of absolutism cannot be violated or betrayed, and they have wide acceptance with no assumptions or exceptions. There is a boundary line that tells what is right and what is wrong. The idea of absolutism is that nothing is dependent on situations.
83. Australia is a vibrant, multicultural country. It is home to the world's oldest continuous cultures, as well as Australians who identify with more than 270 ancestries. It mentions that Australia has the oldest culture of residents and a quarter of the people in Australia were born overseas. Migrants make an enormous contribution to Australia's economy and provide an estimated fiscal benefit of over 10 billion dollars in their first ten years of settlement. Despite legal protection, too many people in Australia continue to experience prejudice and unfair treatment because of how they look or where they come from. Most new migrants say they feel a strong sense of belonging to Australia and that this feeling deepens over time. This rich, cultural diversity is one of the Australian greatest strengths, although it has a negative effect, which we do not emphasize in detail.
84. Well, I think the drugs we use are not taken seriously into account. Parents leave their drugs all over the place at home but their children may accidentally take these drugs before they know it. And soon many children fall



victim to accidents. Now, this must be avoided at all cost. One way of preventing accidents is to put drugs in closed boxes. Also, parents can firmly close the lid really well. I am sure kids would not be able to reach it. Another problem we find in mismanagement of drugs is how these medicines can be allergic to many people. We have to remember different drugs have different resistance and duration. That is extremely dangerous if someone takes a wrong drug. So what are the ways we can stop this from happening? Well, I suggest we introduce the course, which will primarily improve the misuse of drugs and greatly improve our lives.

85. The travels of Sir John Mandeville first saw the light of day in the mid-13th century and states in the introduction that it's intended as a guidebook for pilgrims venturing to the Holy Land. Unfortunately, most of the guidebook information is wildly out-of-date. The travels of John Mandeville, despite posing as a guidebook, is actually just a sort of combination of many eleventh and twelfth century sources. Mandeville ripped pieces from one source bits from another and put them together in a big melting pot and one continuous narrative. A storyteller at heart, Mandeville quickly leaves the guidebook behind and starts spinning tales. Now based on events described within the travels of John Mandeville we can say fairly definitively that it was written after 1360 which would seem to jive with the 1366 date that Mandeville gifts for when he finished his narrative. Now while there is no original manuscript known to survive we do have a very early copy from 1371. It was written in French although it's heavily peppered with Anglicanism, suggesting that the book was written in English initially and later translated to French. The 15th century copy of the work says it was originally written in Latin, translated into French and then translated into English that it might reach men of all parts of the world but this seems to be a much later edition. The work was





quickly translated into all the dialects and languages of Europe, French, Spanish, Dutch, German, Bohemia and even Gaelic. We have three early English manuscripts although they're all post 14 hundred but to give something of an indication of how popular Mandeville's work was. We do have over 300 surviving manuscripts versions of the travels of John Mandeville, as opposed to only 77 of Marco Polo. Now all of this is in an aged Pre Guttenberg so that should give you some sort of indication of just exactly how much these works spread.

86. I'm fascinated by the extent to which sharing economy platforms like Uber and Airbnb are getting Americans to trust each other again. Over the last 40 years, the level of trust in society has fallen quite dramatically. Less than 1 in 5 Americans under the age of 35 today feel that people are trustworthy in general. But in parallel, we've developed a heightened level of trust in strangers who we meet through a digital interface. There's a generation that has grown up reading Yelp reviews, reading Amazon reviews, making their consumption choices based on what strangers on a digital platform say. And so someone who we interact with who comes accompanied by online reviews, a Facebook and LinkedIn profile, and other digital cues seems to be someone we'll trust at the level of friends and family. What excites me about this transition is that through history every time society has created a new basis for trust, it has expanded the economy dramatically. So, I'm looking forward to seeing, as we trust our Uber drivers more, how this expands the world's economic activities and the possibilities for trade.
87. When you are facing a complex problem or trying to do something bold, start with a smaller version of the larger problem. You might have to break it into several manageable minor problems to solve one at a time, and then put them together. Focus exclusively on that small problem and solve it. Use the



answers to this small issue to expand your knowledge of the larger issue. Repeat. If you take a look around, you can see this pattern playing out everywhere. Some examples are given. When you watch the world, you have to look at the relations within the world. When you understand the world, a few things are in relation to each other. When you study different disciplines, they are related to one another. For example, if we study a family, culture, religion and politics need to be concerned. Without relation, we can't understand population changes. You should fit these disciplines into a larger picture.

88. The glass ceiling is an idea familiar to many. It refers to the invisible barrier that seems to exist in many fields and which prevents women from achieving senior positions. Less well-known, but arguably a more pernicious problem, is the 'glass cliff'. Originally recognized by academics Michelle Ryan and Alex Haslam back in 2005, this is the phenomenon of women making it to the boardroom but finding themselves disproportionately represented in untenable leadership positions. Ryan and Haslam presented evidence that women were indeed starting to secure seats at boardroom tables. But the problem was that their positions were inherently unstable. These women would then find themselves in an unsustainable leadership position from which they would be ousted with evidence of apparent failure. The title of their paper sums it up: women are over-represented in precarious leadership positions. Subsequent research in an array of environments has demonstrated that this is not an isolated issue, nor is it unique to certain industries or geographical locations. It reveals that women in top leadership positions seem to be routinely handed inherently unsolvable problems.
89. Women systematically underestimate their own abilities. If you test men and women and you ask them questions on totally objective criteria, like GPAs,



men get it wrong slightly high, and women get it wrong slightly low. Women do not negotiate for themselves in the workforce. A study in the last two years of people entering the workforce out of college showed that 57% of boys entering or men, I guess, are negotiating for salary, and only 7% of women. And most importantly, men attribute their success to themselves and women attribute it to other external factors. If you ask men why they did a good job, they'll say, I'm awesome. If you ask, obviously. Why are you even asking? If you ask women why they did a good job? What they'll say is someone helped them they got lucky, they worked really hard. Why does this matter? Boy, it matters a lot. Because no one gets to the corner office by sitting on the side, not at the table, and no one gets the promotion if they don't think they deserve their success, or they don't even understand their own success.

90. Theater study is a difficult subject in the academy because it cannot be experimental and it is a mixture of literature and personal life experience. Theatre should show pure lives, although there will be new actors or directors. It is also a collection of different skills, such as writing and singing. To succeed in this subject, you need the knowledge of linguistics, sociology, archeology, physics, psychology, and philosophy. Theater study is interdisciplinary, and you need to be a linguist and archaeologist to fully understand theater study. If we move everything away, there are some intellectual and distinctive things left. What makes theater study distinctive is that it is an ongoing project that requires a study lifespan of 60 to 70 years.
91. We appear to take it as a rule, or as a law of nature, that each species is adapted to the climate of its own home. For example, species from the Arctic, or even a temperate region, could not survive in a tropical climate, nor could a tropical species last long if it found itself at the South Pole. But it is true to say there's too much emphasis placed on the degree of adaptation of species to



the climates where they live. We assume that this adaptation – if all species are descended from a single form – must have taken place over millions of years, yet a large number of plants and animals brought from different countries remain perfectly healthy in their new home. Also, there are several examples of animal species that have extended their range, within historical times, from warmer to cooler latitudes and the other way round. Rats and mice provide good examples: they have been transported by man to many parts of the world and now have a far wider range than any other rodent, and they can be found living in the cold climate of the Faroe Islands to the north through the tropical zones to the Falklands in the south. It is possible to see adaptation to any climate as a quality that is part of an inborn flexibility of the physical and mental constitution of most animals. Therefore, the ability to survive in the most different climates by both man and his domestic animals, and the fact that elephants once existed in an ice age while living species live in tropical areas, should not be seen as deviations from the rule, but as examples of this flexibility being brought into action under particular circumstances.

92. So, in the seller's market, what marketing tends to be is what we call product focus market. You have the product. If the customers want it, they're going to come to you. In that case, you should develop that product to the best of your ability. You should innovate in that product, you should try to reduce cost and you should really focus on the product. Your business objective in a product-focused market is to sell as much as you can, and profitability from a product-focused market is going to come from volume.

Selling as much as you can. In the past when we've studied product focus market, we've shown that profitability is tied to market share. So market share becomes your business objective. And why does market share increase



profitability? Because the bigger your market share, the more your revenues. And the bigger your market share, and your volume, the lower the product cost and hence profitability. Higher revenues, lower cost, more profit. That's really the goal of a product focused market and when you're product focused, where do you get growth? Will you develop new products based on your product experience or you go to new markets? That's product focused marketing.

93. Today, I would like to focus on some of the important features of academic writing. The quality is the first most aspect of any writing. When you write about history, you need half the same quality as journal writing. They are both similar. When you are writing academic and journal papers, you might consider some of these factors. Both require resources and evidence as well as writing style. Furthermore, the attention of logic in writing is also important. One thing that puzzles me is that there is no clear connection between history and journal writing, but somehow, they are so much alike.
94. We appear to take it as a rule, or as a law of nature, that each species is adapted to the climate of its own home. For example, species from the Arctic, or even a temperate region, could not survive in a tropical climate, nor could a tropical species last long if it found itself at the South Pole. But it is true to say there's too much emphasis placed on the degree of adaptation of species to the climates where they live. We assume that this adaptation – if all species are descended from a single form – must have taken place over millions of years, yet a large number of plants and animals brought from different countries remain perfectly healthy in their new home. Also, there are several examples of animal species that have extended their range, within historical times, from warmer to cooler latitudes and the other way round. Rats and mice provide good examples: they have been transported by man to many



parts of the world and now have a far wider range than any other rodent, and they can be found living in the cold climate of the Faroe Islands to the north through the tropical zones to the Falklands in the south. It is possible to see adaptation to any climate as a quality that is part of an inborn flexibility of the physical and mental constitution of most animals. Therefore, the ability to survive in the most different climates by both man and his domestic animals, and the fact that elephants once existed in an ice age while living species live in tropical areas, should not be seen as deviations from the rule, but as examples of this flexibility being brought into action under particular.

95. Machiavelli lived from 1469 to 1527. The philosopher Bertrand Russell referred to Machiavelli's most well-known book, *The Prince*, as "a gangster's handbook". And while there's no doubt that certain people have read and used it as such, I think that if we put it into the context of when it was written, which was Italy, especially Florence, in the 15th and 16th centuries, it will be easier to judge Machiavelli's reasons for writing it. Now, the Italy of that period was made up of a number of city states, often at war with each other. Add to that threats from foreign powers, especially France, and it was a very unstable and dangerous situation. Machiavelli loved his home city, Florence, and wanted to protect its culture, history and above all independence at all costs. One way to do this was to establish an army of Florentines loyal to the city state of Florence. Much of Machiavelli's career was taken up with this issue. It must be remembered, though, that he led an active civic life, was deeply into politics, and was an ambassador for Florence. In this way, he got to meet and observe some of the key players of the time and through this came to understand the nature of power and how to hold on to it. The prince was an attempt to teach Florence the lessons he had learnt.





96. Today I would like to talk about a book in this class. This book focuses on architecture design in London. Not just any place in London. It is in the West side of London called West Street of London. The architecture made a very poor design of the buildings there. This can cause a mood swing. An awful design of the building can have a negative influence on people's mood. If you want some beautiful designs, then you must visit Stanford and Frankfurt. They are good examples of the best architectural designs. Different architects have different perspectives on beauty, which is an arrogant word since is in the eye of the beholder. One can write the ... out in the play, but how one can design bad and ugly buildings. Well, it is difficult for architects to realize a bad architectural design.
97. The preservation of embryos and juveniles is a rare occurrence in the fossil record. The tiny, delicate skeletons are usually scattered by scavengers or destroyed by weathering before they can be fossilized. Ichthyosaurs had a higher chance of being preserved than did terrestrial creatures because, as marine animals, they tended to live in environments less subject to erosion. Still, their fossilization required a suite of factors: a slow rate of decay of soft tissues, little scavenging by other animals, a lack of swift currents and waves to jumble and carry away small bones, and fairly rapid burial. Given these factors, some areas have become a treasury of well-preserved ichthyosaur fossils. The deposits at Holzmaden, Germany, present an interesting case for analysis. The ichthyosaur remains are found in black, bituminous marine shales deposited about 190 million years ago. Over the years, thousands of specimens of marine reptiles, fish and invertebrates have been recovered from these rocks. The quality of preservation is outstanding, but what is even more impressive is the number of ichthyosaur fossils containing preserved embryos. Ichthyosaurs with embryos have been reported from 6 different



levels of the shale in a small area around Holzmaden, suggesting that a specific site was used by large numbers of ichthyosaurs repeatedly over time. The embryos are quite advanced in their physical development; their paddles, for example, are already well formed. One specimen is even preserved in the birth canal. In addition, the shale contains the remains of many newborns that are between 20 and 30 inches long. Why are there so many pregnant females and young at Holzmaden when they are so rare elsewhere? The quality of preservation is almost unmatched and quarry operations have been carried out carefully with an awareness of the value of the fossils. But these factors do not account for the interesting question of how there came to be such a concentration of pregnant ichthyosaurs in a particular place very close to their time of giving birth.

98. So, happiness economics can help us get to these questions, and I'll try to give you some examples of this. Now, even though there's a lot of skepticism, originally about using this survey - surveys what people say make them happy. The number of reason that we are getting increasingly confident in doing so. One is that their consistent pattern - remarkable consistent pattern, determines well-being across large samples of people, across countries, across the world, and over time. Some of the basic things that make people happy, and I will show you some of these income health, marital status, employment status. Some of these very basic things are remarkably consistent across countries across world. So that gives us some sense that these surveys are picking up consistent patterns. And when we know what consistent patterns are, we can look how other things that very much more, affect people's well-being. The environment and equality, the nature's institution raging on living, and all kinds of other things that very much more.



99. English, as you have already read, is not a pure language. I don't think there really are any pure languages in the world. But English is definitely not a pure language. English, in fact, has borrowed from over 350 languages in its history. So, it's a variety of many languages. Some people say it's like a dog, a mongrel dog, a dog that has been made up of many different dogs. The English language is like that. By looking at the history of the English language we learn about the history of the English people. The two things are closely connected. So, in fact, today we are not only learning about language but we are learning about history. The fact that English has borrowed words from over 350 languages has been viewed differently throughout history. So, for example in Shakespeare's time people were very angry about words which were not, they thought, original English words – words which came from other languages, they didn't like them.
100. Well, it's like, why is Australian housing is so expensive? Essentially, it's showing of how well the Australian economy has been doing over the last 15 years. We have had 15 years more or less of an uninterrupted economic growth during which average earning has been raised by close to 90 percent. While over the course of that period, the standard variable mortgage rate has roughly halved. That meant that the amount which a typical home buying household can afford to borrow under rules which aren't strictly applied as they used to be had more than doubled. Over the same period, rising immigration in falling average household size has meant that the number of households looking for accommodation has risen by about one and a half million. That's around 200 thousand more than the number of dwellings has increased by. So, you have had a substantial increase in the purchasing power of households. No net increase in the supply of housing enhances all that addition purchasing power has gone into pushing up the price of housing.



101. "But what are the dangers of keeping these drugs at home?" "There are a number of dangers. Parents should know that leftover drugs are dangerous because they may be accidentally ingested by children. Either adults don't keep the bottles properly closed and stored or because even many kids can sometimes open childproof lids. Patients may use the drugs after their expiration date. The leftover drugs may be taken for the wrong reasons. For example, someone may have a viral infection and self-prescribed to left over into microbial that was prescribed for a bacterial infection. But that drug will have no effect as the viral infections. Drugs that are left over might be given to or taken by someone else who may have a serious allergy to the medicine and who for that reason would not be prescribed to medicine under the supervision of a physician. Finally, inappropriate use of drugs promotes drug resistance if the drug is taken for the wrong indication, the wrong duration, or in the wrong dosage. "Todd, what can people do about this how can the situation be improved?" "I think physicians, patients and parents of patients can take steps to improve the situation. First of all, physicians should prescribe the drug only when appropriate, only in the correct amount and only for the correct duration. Also, the physician must stress to the patient that the full course of the drug must be taken. This is recommended even if symptoms resolved before the end of the prescription and parents of children on antibiotics need to ensure they complete their course as well."

102. So various conclusions. Yes, bees are in decline. These declines are well-documented. They are real and supported by good, strong scientific evidence, which is the only of these counts. The drivers of decline on many varied depending on species. The effects of pollinator loss could be absolutely huge. So, is it a catastrophe? Not yet. But it could be. On the positive side, we are aware of the problem. Awareness is being raised all the



time and people are taking actions. Before fixing is missing, you can recognize the problem. At least it's been done.

103. Today, we'll discuss about abstraction, commonly known as description. There are two methods of description. These are symbolic language and body language. The abstraction is an important part for developing a computer. This is originated from the symbolic system in the computer system. The origin of symbolic system was developed when people try to communicate with each other. The symbolic language took communication to wider people and popularity group. The other part of abstraction is the body language. People accepted body language as well. The physical movement facilitates the development of sign language, which popularly became hand words.

104. In my view, it's impossible not to talk about wildlife, and not think about its role in livelihood. And I guess part of that is my own view, part of the research that I do in Africa. In most Eastern West Africa, I look at the role. All the humans rely on wildlife as the source of food, and also the source of income. And we talk about our wildlife, if we talking about fish, we are talking about what is probably the single most important source of protein for human that across the globe. And, so, billions of, or more than a billion of people rely on fish as their primary source of animal protein, and most of these people living in poverty. So, the management of fish resource of wildlife in that sense causing incredibly important to livelihoods and health. And also, wildlife tourism is the multiple billion dollars' industry, and in many places, such as Africa, South America, it can be the No.1 source of income. It can be the No.1 source of foreign income for economies.

105. Electricity storage systems are the set of methods and technologies used to store electricity. The need for electricity storage is due to an imbalance in supply and demand on the electrical grid due primarily to an increase in



renewable energy generation. These supply and demand discrepancies occur because renewables are intermittent, meaning electricity isn't produced when the Sun isn't shining or the wind isn't blowing, even though consumers still require electricity in these renewable downtimes.

Currently, grids distribute electricity in real time, meaning electricity is being consistently produced to meet consumer demand. Electricity storage gives grid operators the flexibility to use electricity that otherwise would be wasted. This grid flexibility is highly sought after and has the potential to transform how we produce and consume electricity and is therefore being widely researched and tested. There are many different forms of electricity storage. The most common being: battery, pumped hydro, compressed air, and flywheel. Currently, the largest challenges in implementing electricity storage at the grid scale are the cost and the infancy of the technology that's electricity storage.

106. When human females are pregnant, they're advised to stay away from alcohol, for fear of harming the foetus. And most parents refrain from giving their infants bottles full of whiskey or beer, for obvious reasons. But if you're a fruit fly, literally dousing your offspring in alcohol is apparently one of the best ways to protect them from danger, particularly from certain types of wasps. How and why? Let's back up a bit. First, certain types of wasps prey on fruit flies by injecting eggs inside fruit fly larvae. Unless an infected larva kills the wasp egg, it hatches and the wasp larva eats its way out from inside the fruit fly larva, killing it. One way for fruit fly moms to protect against this gruesome fate is to lay their eggs in an alcohol-soaked environment, such as fermenting fruit, when they see that parasitic wasps are around. Although alcohol is toxic to fruit flies, it's even more toxic to wasps, which, unlike fruit flies, have not evolved a high level of alcohol tolerance. So, if the larvae eat enough alcohol





rich food, it can kill the wasp egg and keep it from hatching. Apparently, fruit flies are not the only fly species to use alcohol to protect their young. In fact, it seems that most flies that eat rotting fruit use the alcohol defence against wasps. So, fruit flies are not unique in this regard, but they're still mighty impressive.

107. Electricity is the physical flow of electrons referred to as an electrical current. Electricity is an energy carrier that efficiently delivers the energy found in primary sources to end-users, who in turn convert it into energy services. Electricity can be created in three main ways. The most common is through electromagnetic conversion, where electricity is generated by moving an electric conductor, like wires, inside magnetic field. The most practical example of this is a generator connected to a turbine. The turbine provides the motion required to move the conductor in the generator. This energy for motion can come from various technologies. For example, wind turbines, hydro, or the steam created from heat produced a nuclear fission or coal combustion. Electricity can also be created through a chemical reaction. An example of this is a battery or fuel cell. Finally, electricity can be created through solid-state conversion, where electricity is generated using the structure and properties of a solid. A specially constructed solid consists of different molecules packed closely together to create an electric current when stimulated. An example of a technology that utilizes solid-state conversion is a solar PV cell. It is important to note that electricity is the same regardless of how it is produced. So, the electricity generated from an electromagnetic generator is the same as that from a battery.
108. The word solstice means 'sun standing' in Latin. It marks the point when the sun stops at its most northerly or southerly point, relative to the equator. Before reversing direction, the summer solstice, the sun would appear at its



highest point in the sky, and is the day with the longest period of daylight. It happens twice a year, once in both the northern and southern hemispheres. The summer solstice in the northern hemisphere occurs around the 21st of June, but it does not always occur on this day. As it all depends on when the sun reaches its northernmost point from the celestial equator, it can happen between the 20th to the 22nd of June. Around this time in areas north of the arctic circle, it is possible to witness the sun not set at all, so a dubbed land of the midnight sun for this very reason. This occurs because the earth's rotational axis is tilted. The earth rotates around an axis inclined at an angle of 23.5 degrees in relation to its orbital plane around the sun. It is this tilt that gives us our seasons. Summer occurs in the hemisphere that is tilted towards the sun, whilst winter falls on the hemisphere that is tilted away from the sun.

109. A sea breeze is an onshore breeze which develops around the coastlines of sea and even large lakes on warm days. In mid-latitudes, it commonly occurs during the spring and summer. This is when there is a large temperature difference between the sea and adjacent land areas. A sea breeze is a thermally driven circulation, forming due to the fact that the land heats up more quickly than the sea. Water has a higher specific heat capacity and so requires more energy to raise the temperature. As the sun radiates energy at more or less a constant rate, it will take longer for the water to heat up. This means that peak sea surface temperatures aren't reached until early autumn. This differential heating of adjacent land and sea surfaces is the main factor in the formation of sea breezes. A temperature difference of around 3 degrees Celsius is required for sea breeze to start to develop. Other factors that are required for sea breezes to form are light offshore winds at around 3000 feet. This aids the higher-level flow out to sea to get the process started.



110. After World War II, European countries increased their efforts to live peacefully together on their small continent. To improve business and trade, six countries - Germany, France, Belgium, Italy, Luxembourg, and the Netherlands - came together in 1958 to create a common economy and currency. These countries agreed not to use trade barriers like tariffs, embargoes, or quotas with each other. This led to a more prosperous economy in these countries. As the years went on, more European countries joined this group called The European Union, or EU for short. There are currently 21 countries in the EU after United Kingdom left. And there are other countries like turkey that hope to join the EU. The EU worked to help create jobs in poor parts of Europe and pass laws to protect the environment. The group or Union focused on the idea that all Goods, Services, people, and money should be able to move freely through the through the EU countries. Europeans no longer had to carry their passports when traveling between the EU countries. They could instead travel from country to Country much like the people in the United States travel from state to state.
111. Sweetened condensed milk is a good ingredient for sweet recipes because of all the added sugar--about 25% by weight. But when sweetened condensed milk was invented in the 1800's, the original reason for adding sugar to the milk was not for flavor, but for protection against spoilage. And it works--even after you open the can, sweetened condensed milk keeps longer than fresh milk. That added sugar kills bacteria that would otherwise digest the milk and spoil it. The sugar kills not by poisoning the bacteria, but by a more direct physical process. It draws water out of the bacteria so the bacterial cells shrivel and die. Each bacterial cell has a sort of skin--technically, a membrane. Water can pass through this membrane pretty easily, but substances dissolved in the water can't. Water has a natural tendency to





move toward any region where there's a high concentration of dissolved substances. A bacterial cell in a can of sweetened condensed milk finds itself immersed in an extremely concentrated solution of sugar. Water inside the cell will, therefore, pass out through the cell membrane into the sugar solution. The bacterial cell dehydrates and dies in a sea of sugary water. Sugar added to fruit has the same effect--that's the idea behind fruit preserves. Other foods are preserved with salt, exploiting the same principle.

112. Steam is water that's heated to two hundred twelve degrees Fahrenheit. Believe it or not, steam is invisible -- you can see right through it! If you look closely at the end of your kettle's spout, you'll notice that the white stuff doesn't start right away. It begins billowing about half an inch away from the nozzle, with clear gas in between. This clear gas is the actual steam. The billowy white stuff is what the steam turns into when it hits the drier, cooler air of your kitchen. Those white billows are, in fact, clouds, not steam. In many ways, they are identical to the clouds you can see in the sky. The white color comes from tiny liquid water droplets that have condensed from the steam. More accurately, these billows are a type of cloud called a "mixing cloud." These can form when two separate air masses with different temperatures and different amounts of water in them -- mix together. In the case of your kettle, the hot, steamy gas cools rapidly in the kitchen air, and this sudden coolness is what makes some of the vapor condense. Mixing clouds are pretty common, and they don't need to start with steam. You see mixing clouds when you "see your breath" on a cold winter day. You'll find them rising from a bowl of warm soup. Wherever there's a mixing cloud, you can bet some warm, moist air is mixing with air that's cooler and drier.
113. Why does altitude cause headache? Since the air is thinner, there is less oxygen in the blood, so blood flow to the brain increases. The extra blood can



cause blood vessels to swell and tissues to press on the sensitive membrane that surrounds the brain, resulting in a headache. But not everyone develops a headache at moderately high altitudes, partly because the low oxygen content of the air causes the climber to breath more often, forcing carbon dioxide out of the blood. The body reacts to the lowered carbon dioxide content of the blood by decreasing blood flow to the brain. An individual's susceptibility to altitude-induced headache, as well as the severity of the headache, depends on whether the overall blood flow to the brain increases or decreases. At high altitudes, usually over 10,000 feet, an unrelated condition known as high-altitude cerebral edema, or HACE, can develop. HACE occurs when parts of the brain become waterlogged. Unlike altitude-induced headache, which occurs in over ninety percent of the people who ascend to 11,000 feet, HACE is a rare disorder. Characterized by mental confusion, hallucinations, and a drunken stagger, HACE is almost always fatal if descent is not immediate.

114. "Blood types are inherited, just like you inherit your eye color, or your hair texture, so you get a gene from each parent, and that determines what the child's blood type is gonna be."

"There's sort for blood types?"

"There is, there is A, type A, type B, type AB, and type O. The only difference is what sugar molecule is added to that point. There are some studies that show that the reason that A, B, O and AB have been distributed the way they were was because of forces that they think of primarily connected to the organism that causes malaria. It turned out to be that people who had type O were actually able to survive an attack of malaria. It appeared that malaria organism was more readily able to attach to red cells that were type A or



type B, and actually kill those patients before they have a chance to reproduce.

Those people who had type O actually would get sick, but wouldn't die, and had an opportunity to reproduce, and that's how the gene goes forward. And then, if you look at a map of where malaria is now and where the different peoples are, you can see that the type O was followed, there is where there's malaria, A and B has gone to colder climates where malaria wasn't a problem, and then AB was just, you know, combination of the races."

115. Evolution is a scientific theory used by biologists. It explains how living things change over a long time and how they have come to be the way they are. The earth has been around for a very long time. By doing research on the layers of rock, we can find out about its past. That kind of research is called historical geology. We know that living things have changed over time because we can see their remains in the rocks. These remains are called fossils. So, we know that the animals and plants of today are different from those of long ago, and the further we go back, the more different the fossils are. How has this come about? That evolution has taken place is a fact because it is overwhelmingly supported by many lines of evidence. At the same time, evolutionary questions are still being actively researched by biologists. Comparison of DNA sequences allows organisms to be grouped by how similar their sequences are. In 2010, an analysis compared sequences to phylogenetic trees, and supported the idea of common descent. There is now strong quantitative support for a formal test for the unity of life. The theory of evolution is the basis of modern biology. Nothing in biology makes sense except in the light of evolution.
116. A UFO, unidentified flying object, is any object flying in the sky which cannot be identified by the person who sees it. Sometimes, the object is investigated.





If people can still not figure out what the project is after an investigation, it's called a UFO. If they figure out what the object is, it can no longer be called a UFO because it has been identified. Even though UFOS can be anything, people often use the word UFO, when they're talking about alien spacecraft. Flying saucer is another word that is often used to describe an unidentified flying object.

Studies estimate that fifty to ninety percent of all reported UFO sightings are identified later; usually 10 to 20 percent are never identified. Studies also show that very few UFO sightings are hoaxes: people trying to trick other people. Most IFOS are actually natural or man-made objects that look strange. 80 to 90 percent of IFOS are identified as one of three different things: astronomical causes, for example, planets, stars, or meteors, aircraft, balloons, including weather balloons; 10 to 20 percent of IFOs are other causes, such as birds, clouds, mirages searchlights etc.

117. Let's look at the size of rain, and how raindrops fall. First, we'll need the Sun. When the Sun shines on water on the Earth's surface, the heat of the Sun warms the water, turning it into an invisible gas called water vapor. This process, the changing of water into a gas, is called evaporation. Because gases are lighter than liquids, water vapor rises up into the sky, and the further you move up and away from the Earth's surface, the colder the temperature gets. So in the sky, the water vapor cools, and changes back into tiny water droplets. This change is called condensation, and is the opposite of evaporation.

Clouds are made up of tiny water droplets. So, when condensation occurs in the sky, clouds form and grow. Let's take a closer look. When water droplets bump into one another, they stick together and grow in size. They continue to grow until they are too heavy and fall as rain. They even grow as they bump



into one another on their journey from the cloud to the ground, and every single raindrop that reaches the ground is made up of 1 million of the original tiny water droplets. Raindrops fall on the ground surface, or the Sun can shine on them and the whole process happens again. This is called the water cycle, and keeps water moving from the ground to the sky, providing the water needed for plants, animals, and people to survive.

118. Humans are pretty lucky with the way we can communicate. Unlike animals, we have the perfect length necks and excellent control of our breaths. Both of these characteristics allow us to form words. Although animals can't talk like us, they still have special ways to communicate. For example, dolphins have one of the most sophisticated forms of communication. They make distinct whistling sounds that help identify themselves. Dolphins may also squeak or Yelp depending on the situation. Nevertheless, each sound releases meaningful information. You have probably heard some birds say words just like us, but they are merely repeating what they hear. Most birds communicate through songs and squawks that can be beautiful for us to listen to. Other animals communicate without making a sound. Elephants show affection by wrapping their trunks around each other; whales leap out of the water to send messages to their friends; bees perform a special dance when they have located nectar in a tree. Even if it's just our pet dog wagging his tail or a pet cat purring, all animals have their own way to convey information to us and each other.



## FILL IN THE BLANKS

1. Does your puppy turn his nose up at his own chow- because he wants some of whatever it is that you're having? A new study finds that, when it comes to food, dogs recognize human [social](#) signals about what's good. The work is in the journal Public Library of Science ONE. Researchers let pet dogs choose between two plates, one with a single piece of food and the other with six pieces. [Unsurprisingly](#) the animals generally went for the larger portion. But when a human being showed a clear liking for the smaller plate, the canines likewise went for the skimpier choice. The dogs [apparently](#) recognized and responded to the humans 'social cues. And not all cues were equally effective. When the human approached but did not touch the smaller portion, dogs [ignored](#) the attention drawing gesture. For a social signal to influence behavior, it had to demonstrate intention. And the most effective cues also involved [communication](#) such as looking from the food to the dog and back while talking encouragingly. For dogs, choosing a bite may depend on another's bark.
2. That brings us to the CEO's second duty: building [everyone](#) or more accurately, building the senior team. All the executives report to the CEO, so it's the CEO's job to [hire](#), fire, and manage the executive team. From [coaching](#) CEOs, I actually think this is the most important skill of all. Because when a CEO hires an excellent senior team, that team can keep the company running. When a CEO hire a poor senior team, the CEO is up [spending](#) all of their time trying to do with the team, and not nearly enough time trying to do with other elements of their job. The senior team can and often does [develop](#)



the strategy for the company, but ultimately it's always the CEO who has the final 'go-no-go' decision on strategy.

3. Doctors know a lot about prescribing medications. "Take two brisk walks and call me in the morning. "But for many patients, a light get-moving plan might be just what the doctor should have [ordered](#). Many of us aren't exactly in peak physical condition. But a large number of people are actually deconditioned. So says the Mayo Clinic's Michael Joyner in an essay in The Journal of Physiology. After surgery, illness, pregnancy or extended inactivity for any reason, people might feel faint or [fatigued](#) when they try even mild exercise. These signs, Joyner argues, should be [recognized](#) by doctors not as symptoms that should be treated with drugs, but rather as a medical state of deconditioning that might be better helped with a gentle, guided [exercise](#) program. It might sound counterintuitive that fatigue can be beat back with exercise. But remember Newton–Isaac, not Fig. A body at rest stays at rest. And a body in motion needs to resist [external](#) forces acting upon it that might slow it down.
4. Life in the UK 2012 provides a unique overview of well-being in the UK today. The report is the first snapshot of life in the UK to be [delivered](#) by the Measuring National Well-being program and will be updated and published annually. Well-being is discussed in terms of the economy, people and the environment. Information such as the [unemployment](#) rate or number of crimes against the person are presented alongside data on people's thoughts and feelings, for example, [satisfaction](#) with our jobs or leisure time and fear of crime. Together, a richer picture on 'how society is doing' is provided.
5. Belief is the human capacity to imagine, to be creative, to hope and dream, to infuse the world with meanings, and to cast our aspirations far and wide. Limited neither by personal experience nor [material](#) reality. Believing is a



[commitment](#), an investment, a devotion to possibilities. Beliefs [permeate](#) neurobiologies, bodies and ecologies acting as dynamic agents in evolutionary processes. The human capacity for belief, the [specifics](#) of belief, and I, and our diverse belief systems shape, structure and alter our daily lives, our societies, and the world around us.

6. In this tutorial, we will show you how to find specific journal articles using the library catalog. The university [subscribes](#) to over 18,000 journals across a variety of subjects, most of which are available [electronically](#) to find a specific journal article using a library catalog. We need to [search](#) by the journal name as individual article titles are not [listed](#) in the catalog.
7. The thing that makes it difficult is because even if life had evolved on Mars, the chances of being preserved are very small. If we use Earth as a [reference](#) and our planet is teeming with life, yet it rarely preserves evidence of life of the fossil record. And the focus now is on exploring for [habitable](#) environments. If you're looking for water, a [source](#) of energy, either solar energy or thermal energy or chemical energy, and then [organic](#) carbon, assuming life as we know it on Earth based on carbon. So those are sort of the three things that we're looking for in the course of our mission.
8. Green chemistry is a concept designed to develop [technologies](#) which allow chemistry to be practiced with minimal damage to the environment or in an environmentally [compatible](#) way. And it's meant to cover both chemical processes and chemical [products](#). The center, if you would, set up about seven or eight years ago, and the idea was to provide a hub of activities that covered [fundamental](#) research work, industrial collaboration, but also educational developments. So we work with schools and on public projects as well, and also networking. So we network out to well over 1000 people around the globe.



9. So between 4,000 and 3,000 BC the Mesopotamian Samarian cultures do not [practice](#) any kind of burial. And then, about 3,000, in the early Dynastic Period, these burials start to reappear, and they reappear with a certain amount of [conspicuous](#) consumption, and this is the context for the royal burials at Ur. OK, so, the royal [cemetery](#) consists of quite a number of pits, so these are the [excavation](#) workers who are coming down into the pits. So you get some sense of how really deep and how really difficult it was to construct these [chambers](#).
10. Perhaps you remember the dire predictions from the analysts. The fall off in housing [threatened](#) to drag down the entire economy. High energy prices put the kibosh on consumer spending. Runaway [inflation](#) was poised to take off. David Wyss is an [economist](#) at Standard and Poor's. He says in the end none of those things happened in the final [three](#) months of last year.
11. One of the things that people have said about agriculture is that on the whole it's more labor [intensive](#) than hunting and gathering, and that's one of the reasons why people have looked to explanations which, you might say, are kind of [corrosive](#) factors – that people have been forced into agriculture because they had no alternative. That is [ultimately](#) what may happen. But at the very beginning it could be that agriculture was developed because people wanted special status foods for feasting; that it was actually a [social](#) need. I mean, how much of what we do in our lives is generated by competition with others? And a lot of that is powered by desire for new things, new statuses, new [whatever](#) it might be. Respect, recognition also are important. And in small-scale societies a lot of those sorts of factors are [generated](#) by the ability to, for instance, throw feasts. One possibility is that some of these foods that were being grown were actually intended especially as feasting foods.





12. Why do we need more entrepreneurs right now? The entrepreneurs who create and run our businesses, who play by the rules, are in fact critical to our [success](#) as a nation. We need them especially today. Business, not government, will end this recession. Government must help by creating fair rules, [sound](#) monetary policy, and by protecting our fellow citizens in periods when they are jobless. We have to make way for the new entrepreneurial firms that will push us to [frontiers](#) of innovation.
13. The ocean has been getting [bluer](#), according to a study published in the journal Nature. But that's not really good news for the [planet](#). It means that the plants that give the ocean its [green](#) tint aren't doing well. Scientists say that's because the ocean has been getting [warmer](#).
14. It's not easy being yellow: bananas now face two separate fungal epidemics, which threaten to pluck the fruit off of our tables. [Fortunately](#), researchers have now sequenced banana DNA, producing the genome of a banana variety that may hold the secret to defeating the diseases. The report is in the journal Nature. Today, half of all bananas, including the ones you probably buy, belong to the [Cavendish variety](#) whose popularity stems in part from having no seeds. But this trait also removes sexual [reproduction](#) from the equation. The bananas are thus all genetically identical – and identically [vulnerable](#) to the two fungal epidemics, Panama disease and black leaf streak disease. Researchers sequenced the genome of a banana variety called DH Pahang, whose genes [contributed](#) to the Cavendish. While the genome shows where this fruit fits in the history of plant evolution, it could also help researchers understand why DH-Pahang, unlike its [descendant](#) is resistant to the fungus behind both Panama and black leaf streak disease. Knowing the genes responsible for this [resistance](#) could help breeders create stronger, more resistant bananas. Which has a lot of appeal.



15. Interesting sound. I would have guessed a Wild West performer was [practicing](#) with a bullwhip while also vacuuming. But no. That sound is apparently produced by the aurora borealis, the northern lights. Since 2000 researchers at Finland's Aalto University have been [collecting](#) audio, as part of what's called the Auroral Acoustics project. Folk tales have long held that the lights also produce odd sounds, but the claims were hard to prove. And some researchers thought that any noises produced by the [energetic](#) particles, that cause the light show would be far too high in the sky to be heard on the ground. But the latest results indicate that at least some sounds are produced very close to the ground. A setup of three ground- based [microphones](#) allowed researchers, to estimate that the sounds occur perhaps just 70 meters up. The results were just presented at the International Congress on Sound and Vibration in Vilnius, Lithuania. More information about the sounds of the northern lights could lead to a more complete understanding of the [phenomenon](#) So if you see an aurora, keep your ears open.
16. Just like corporations, stars, too, can engage in mergers and acquisitions: a new study has [identified](#) a pair of white dwarf stars heading toward a merger. White dwarfs are the hot, super dense remnants of spent stars. In a binary system called J0651, two white dwarfs circle each other very rapidly. The binary pairing [completes](#) an orbit in less than 13 minutes. And that already rapid orbital dance is speeding up as the two white dwarfs spiral in on each other. Each year their orbital period [shrinks](#) by 0.3 milliseconds. That's actually a pretty dramatic change on astronomical [timescales](#) In about a million years, the white dwarfs will get so close that the larger one will start to cannibalize its smaller [companion](#) Before long, the two stars will likely become one. The study appears in the Astrophysical Journal Letters. The tightly wound



white dwarf binary should also be radiating gravitational waves—ripples in the [fabric](#) of space and time. But today's gravitational wave detectors are not sensitive enough to detect them. That's okay—astronomers have another million years, before things get really interesting, to build an [instrument](#) that's up to the task.

17. Scientists are looking for Earth like [planets](#) around other stars. But one way to limit the search can be to figure out where an Earth like planet cannot exist and [eliminate](#) those types of systems. In a new study, astronomers turned their attention to so called hot Jupiter's. These are Jupiter sized planets that have an orbit of only about three days. The scientists looked at 63 hot Jupiter's to see if they could find [evidence](#) for any nearby Earth like planets. They found none. But it could be that the companion planets are too small in size or mass or just aren't [detectable](#) with the current techniques. So the researchers then turned to hot Neptune's, and warm Jupiter's—these are Jupiter's with [slightly](#) longer orbits. They found only 2 potentials nearby planets among 222 hot Neptures. And of the 31 warm Jupiter's, five showed evidences of a companion. The [findings](#) are in the Proceedings of the National Academy of Sciences. The current theory is that hot Jupiter's formed and then migrated in towards their stars. The researchers say that the [migration](#) might have" disrupted the formation of Earth like planets. Good thing our Jupiter kept its cool.
18. One day the banana is perfect. Bright yellow, firm, flavorful. But even within that same day brown spots appear on your perfectly ripe banana, its flesh turns mushy, and it's destined for the compost or at best, banana bread. But scientists are developing a way to [extend](#) the life of ripe bananas. It's a spray-on coating made from chitosan—a substance found in crab and shrimp shells. The new gel can be [sprayed](#) on bananas to slow the ripening process



by up to 12 days. Like other fruits bananas remain alive after being picked and it actually continues to respire. This means that they take in oxygen and release carbon dioxide. The more the banana [breathes](#) the faster it ripens and then rots. Bananas ripen more quickly than most fruit because they don't naturally slow the [respiration](#) after being picked, in fact it speeds up, causing bananas to become mushy. Chitosan not only kills the [bacteria](#) on banana's skin that then leads to rot, it also [significantly](#) slows down the respiration in the first place. So bananas won't drive you bananas.

19. So in a very important tense, um, memory is the cognitive function that stores knowledge that we've acquired through learning and [perception](#), but also memory is important because memory frees our behavior from being [controlled](#) by the present stimulus environment. If you didn't have memory, all you'd be able to do was [react](#) to whatever is currently in the environment now, whatever it is that you're [experiencing](#). But memory allows us to respond to past events as well as events in the current stimulus environment. And memory also gives us the means to [reflect](#) on our experiences so that we plan for future encounters.
20. My hero is Marie Curie. She was a Polish physicist and chemist working in France, and she did [conduct](#) pioneering research on radioactivity. She was also the first woman who won a Nobel prize. Marie Curie is my hero because she showed a lot of [determination](#) in following her career path and her [passions](#). She also showed a lot of [patience](#) in working for years to receive results from her experiments. And Marie Curie, she designed and built the first [mobile](#) X-Ray machines. She worked on the front lines of the first World War along with her [daughter](#) saving soldiers.
21. Global warming might seem like a [botanical](#) boon. After all, milder temperatures and more carbon dioxide and nitrogen should feed flora. But a



ten-year study has found that any initial positive effect on plant growth from climate change may soon disappear. The report is in the journal Nature Climate Change. Researchers transplanted vegetation from four grassland [ecosystems](#) to lower, warmer elevations. They also modified the precipitation at the transplant sites based on altered rainfall estimates. For the first year, the plants did great, producing more biomass and churning out more [oxygen](#) for us. But their productivity went down for the rest of the decade. What happened? Warming did speed up the nitrogen cycle, which should have increased nitrogen's [availability](#) as plant fertilizer. But a lot of the nitrogen left the soil through run off or [uptake](#) into the atmosphere. In addition, productive native plants began to lose out to species that thrive at higher temperatures, but are less productive than the natives. Warmer temperatures may spur immediate growth, but in the long term, we can't [expect](#) plants to like it hot.

22. Every time you inhale, oxygen passes from your windpipe to your lungs and on into your bloodstream. But what if your windpipe was blocked? Getting the gas straight to your blood could save your life. Wait, put down that syringe—a large air bubble in a blood [vessel](#) can kill you. But what if the bubbles were only a few millionths of a meter in [diameter](#)? Researchers coated tiny amounts of oxygen gas with fatty molecules to create micro particles. Suspended in solution, the micro [particles](#) formed a foam containing 50 to 90 percent oxygen. In a beaker of blood, the foam was able to quickly [transfer](#) its oxygen to the cells. Then the researchers tested it in animals. Normally, a blocked windpipe cuts off the blood's supply of oxygen, leading to brain damage and death. But when [rabbits](#) with blocked windpipes received [injections](#) of the micro particles, their blood oxygen levels and heart rates remained stable. The work is in the journal Science Translational Medicine. The



foam may someday buy time for human patients. So that even someone with a closed airway can [breathe](#) easy.

23. Dogs are not just man's best friend. Previous studies have shown that kids with dogs are less likely to develop asthma. Now a new study may show how— if results from mice apply to us. The work was presented at a meeting of the American Society for Microbiology. The study tests what's called the [hygiene](#) hypothesis. The idea is that extreme cleanliness may actually promote disease later on. Researchers collected dust from homes that had a dog. They fed that house dust to mice. They then infected the mice with a common [childhood](#) infection called respiratory syncytial virus –or RSV. Mice who ate the dog dust were protected against RSV infection symptoms, like inflamed, mucus coated airways, suggesting [exposure](#) helped them stave off the virus. Those mice also had more diverse communities of gut bacteria than control mice did. The researchers say our pet's microbes may [colonize](#) our gut too, and help the immune system learn to [respond](#) to infections. That's important because when kids develop severe RSV their risk of asthma goes up. So next time buster sheds all over the couch, think of it as a [bonus](#) dose of probiotics.
24. I think that's not going to be such uh, a [viable](#) option for Cerberus, but, uh, that may be the way that they're gonna approach it. Private [equity](#) of course is supposed to have the advantage of taking, uh, management out of the spotlight of, uh, quarterly profits, uh, and industry [analysts](#) , and, and, uh, prying shareholder eyes, and that, [hypothetically](#) , gives them a chance to take, uh, slower, more [patient](#) routes to doing something to turn a company around. I would, uh, I would hope, and I have some, I guess [optimism](#) , that some of the Cerberus team will have some creativity and imagination.
25. So, what is quantum mechanics? Even though it was discovered by [physicists](#) , it's not a physical theory in the same sense as electro [magnetism](#) or general





relativity. In the usual "[hierarchy](#) of sciences" -- with biology at the top, then chemistry, then physics, then maths -- quantum mechanics sits at a [level](#) between maths and physics that I don't know a good name for. Basically, quantum mechanics is the [operating](#) system that other physical theories run on as application software (with the [exception](#) of general relativity, which hasn't yet been successfully ported to this particular OS).

26. Squeeze the life out of their prey. But how does a boa know it's snuffed out a rat? The snake listens for a heartbeat. When it stops, that's the cue to let go. According to a study in the journal *Biology Letters*. Researchers outfitted rat cadavers with [artificial](#) beating hearts. They used dead rats to control for other signs of passing, like muscle spasms. Then they warmed up the rats, set the heart's pumping, and dangled them in front of hungry boas. The snakes [attacked](#). And as long as that rat heart kept thumping, the boas [kept](#) tightening their coils and applying bursts of pressure, sometimes for more than 20 minutes. But as soon as scientists killed the heartbeat, the boas loosened up. Even captive born boas who'd never hunted live prey paid [attention](#) to the pulse – suggesting the behavior is innate. And for good reason. The [authors](#) say constriction takes a lot of energy. And it can be dangerous, say, if an enemy strikes while the snake's coiled around its quarry. But by following the tell-tale heart, boas can keep the pressure on just long enough. Before a [relaxing](#) meal.
27. Every year, about 10 million tons of paper winds up in American landfills and incinerators, which is not only wasteful but adds CO2 to the [atmosphere](#). Recycling helps, but even that material has to be repulped and paper sized before you can use it to print out that recipe you 'll never make. But what if you could wipe the page clean and use it again? Light amplification by [stimulated](#) emission of radiation to the rescue. A new study shows that laser



light can [erase](#) the toner from a piece of printed paper. The approach appears in the Proceedings of the Royal Society A. Taking a page from the art restoration [handbook](#) scientists sampled a variety of light sources to see if any could be used to strip the ink from laser printed documents without damaging or discoloring the paper. UV and infrared were too harsh. But a bright green laser applied in 4 nanosecond pulses [vaporizes](#) the print, leaving paper that looks as good as new. Such imprinters will probably run about 30,000 bucks, so they probably will not catch on for home use. But people in the recycling world might find that the green laser fits the [bill](#) for making paper that's really green.

28. Some interesting facts about the great reptilian fossils recently discovered in Wyoming and Colorado have come to light. The bones [found](#) represent reptiles of many sizes, from that of a cat up to one sixty feet high. The latter, found at Como, Wyoming, belonged to the crocodile order; but the remains give [evidence](#) that the animal stood up on its hind legs, like a kangaroo. Another found in Colorado is estimated to have been 100 feet long. A great many remains of the same general class, but belonging to different species, have been collected and sent East. Among them from three to four hundred specimens of the dinosaur, and about a thousand pterodactyls, have been shipped from Colorado, Wyoming, and Kansas. The wings of one of the latter were from thirty to forty feet from tip to tip. Seventeen different species of these flying dragons have been found in the chalk of western Kansas. There have also been found six species of toothed birds. Comparatively little has been done toward classifying the late finds, and the task is such an [enormous](#) one. Great importance is attached to them, however, since nothing of the kind had been found in America until a little over a year ago and great [stress](#) had been laid by certain geologists on their absence. Another remarkable feature



of the discovery was that the fossils which had been reported as not existing in this country had hardly been brought to light in one locality before thousands of tons of them were simultaneously discovered in half a dozen different [places](#).

29. Lead-in time is the amount of time that elapses between a business placing an order with a supplier for more stock or raw [materials](#) and the delivery of the goods to the business. Businesses want the leadtime to be as short as possible, so that they can meet their customer orders and [minimize](#) the time between paying for the stock and receiving the [feedback](#) from the customer. However, this may not happen due to a number of [factors](#), such as delays in the supplier receiving the order, or the breakdown of the suppliers' lorries [delivering](#) the stock to the business.
30. What was interesting and revealing about younger and middle-aged views on old age was how [relative](#) these were to the individual's own age. Those in their teens regarded 40 as old whereas those in their 40s thought 70 or 80 was old. For many, health was seen as a [determining](#) factor in deciding who is old, and many young participants commented on how fit and active their grandparents are, while others thought ill-health and [dependence](#) were an inevitable part of aging. The [majority](#) of participants, however, regarded old age as something negative, and many expressed fear of [growing](#) old.
31. Good evening ladies and gentlemen. My theme for this [session](#) is convergence Technology Change and Business Practice. This is somewhat dear to my heart, in that I have spent much of the last fifteen years involved in various [aspects](#) of technology and their impact on business, across a broad [spectrum](#), from applications of signal processing in manufacture right through to the use of utilization data and diary applications, to improve the time utilization of the [sales](#) force.



32. So two decades later, what's changed? It's now widely recognized that just 20 percent of health [outcomes](#) are tied to medical care, whereas up to 70 percent are tied to healthy behaviors and what's called the social [determinants](#) of health – basically, everything that happens to us for that vast [majority](#) of time when we're not in the doctor's office or the hospital. Health care [executives](#) now routinely remind us that our zip code matters more than our genetic code. And one health care publication even recently had the [audacity](#) to describe the social determinants of health as "the feel good buzzword of the year".
33. Adidas [teamed](#) up with an organization called Parley for the Oceans. Parley goes out and collects plastic waste from the ocean. Adidas uses the plastic waste to make shoes. Shoes made with plastic from the ocean: good for the [environment](#) and good for business. Because if you know that rapidly growing consumer [segment](#) known as hipsters – and I know you know hipsters – then you know that a hipster faced with the [choice](#) between a no-name shoe and an Adidas made with plastic from the ocean will pick the Adidas every day of the week and twice on Sunday, and then walk around like it's no big deal but look for every [opportunity](#) to talk about them.
34. Brad: As I was saying, Professor Mitchell... Lisa: Oh, please call me Lisa. Brad: Yes, well Lisa, well I'm still trying to get my head around the choice of [electives](#) for the optional part of the third-year program. I was thinking of taking personal taxation law, and company tax, together with the extra five-credit point course on goods and services and VAT type taxes, but I'm a bit [concerned](#) that I'm going to pigeon-hole myself too early in the course. Lisa: Yeah, hmmm. Brad: As you know there are going to be [interviews](#) for summer clerkships coming up and I really don't want to come across as too focused on certain areas that a lot of firms don't even do, you know, have a practice



in. Lisa: Well, don't forget, um. only about 25% of the course at this stage is elective-based and you'll still have that core of subjects - crim, legal institutions, [evidence](#), property law, general commercial and fed-con law, all of which would be of interest to a lot of firms. So if I were you, which I'm not, I'd really just go with what my interests are and enjoy the chance to undertake some work in an area that I'm [motivated](#) to pursue. Don't you think? There's an awful lot of time in this profession where you'll be undertaking long, stressful hours on projects that don't really interest you as much.

35. Millions of roses get handed out on Valentine's Day. But growing roses has an [environmental](#) impact worse than many other crops. Start with climate change: most roses in the U.S. and Europe are imported from warmer climes. All that flying and trucking adds thousands of metric tons of carbon dioxide to the atmosphere. Then there's all the water needed to, well, water the flowers. And the runoff fouled by copious [quantities](#) of pesticides needed to make the roses look perfect. There's also the wildlife and workers poisoned by all that fumigation. Add to that habitat [destruction](#) where floral plantations displace native forest and wetlands. Finally, there's the refrigeration needed to keep those blooms fresh. The [electricity](#) is often produced by burning fossil fuels, and the refrigerant gases also exacerbate climate change. A more sustainable and, possibly, more romantic [approach](#) is to go with flowers certified by outfits like VeriFlora, or even better, whatever flowers are in season locally. Of course, that's not much help for those of us in wintry climes. Maybe try writing a poem. Let's see: Roses are red, violets are blue...
36. One seminal difference in policy remains; the [coalition](#) has not matched what is Labor's most important innovation promise. That is to bring together responsibilities for innovation, industry, science and research under one single federal minister. Innovation responsibilities [currently](#) lie within the powerful



Department of Education and Science, and while there is a [separate](#) industry department, it has little influence within Cabinet. This has [hampered](#) policy development and given Australia's innovation policies a distinct science and research [bias](#). It is the scientists rather than the engineers who call the tune in innovation policy in Canberra, so it's no surprise our policies are all about boosting government funded research and later [commercializing](#) their results.

37. We've decided to adopt, just as a loose theme for the course, a [biological](#) theme so that you can see the connections between chemistry and biology and the things you might consider doing in the future. We want you to think about the [molecules](#) that are relevant to your body, the processes that occur in your body, the chemistry that's going on and how [energy](#) plays a role. And we've divided the course into four sections and after each section there will be a mid-term. The first one is about [matter](#).
38. As with all human behavior, there are [numerous](#) reasons for it. But often it's caused by someone who feels the need to show their [superiority](#) over someone else, in order to feel that they aren't at the lowest level in [hierarchy](#) or a group of people. In some cases one person simply dislikes the other, on the [basis](#) that the personality of one is in some way [incompatible](#) with that of the other person.
39. So, palm oil is the most widely produced oil crop currently. It's used in a wide range of [industries](#), including food for bio-fuels and in soaps and shampoo. However, though sector's growing fast, and unfortunately palm oil grows in exactly the same [environment](#) as tropical rain forest. So, the use and the [development](#) of palm oil, the growth in the sector, is leading to wide-scale deforestation. What we are hoping to do is if we can come up an [alternative](#) we can slow the growth of the sector and therefore stop the wide-scale [deforestation](#) in south Asia.





40. The earlier chocolate was quite unpalatable. They used to add things to it to make it more palatable, so for the early chocolate, they didn't know how to extract all the [cocoa](#) fat from it, so it was, or could be quite [greasy](#) and if you made it as a drink you'd have this sort of scum on the top. So they used to try and add things to it, like [starch](#) and things, to make it a more palatable product. So there were a lot of or [scandals](#) around the kind of things they were adding to chocolate in the nineteenth century. So by the sort of 1870s, 1880s, there are people like Cadbury's saying, 'Our chocolate is absolutely pure'. We have this new process, the Van Houten process which now extracts all this [horrible](#) fat that we can use to make eating chocolate. Now we have a pure product.
41. For all his fame and celebration, William Shakespeare remains a [mysterious](#) figure with regards to personal history. There are just two primary [sources](#) for information on the Bard: his works, and various legal and [church](#) documents that have survived from Elizabethan times. Naturally, there are many [gaps](#) in this body of information, which tells us little about Shakespeare the man.
42. Higher interest rates have knocked investors [confidence](#) in putting their money into property, evidence suggests. The [insurance](#) company standard life says that the rate rises since last summer have led more people to question the wisdom of property [investment](#).
43. You know, without getting into the details of [exactly](#) how that happened or how she got it out, let's just say it was a bad situation. And she panicked because, like for many of us, her phone is one of the most used and [essential](#) tools in her life. But, on the other hand, she had no idea how to fix it, because it's a completely [mysterious](#) black box. So, think about it: what would you do? What do you really understand about how your phone works? What are you willing to test or fix? For most people, the answer is, nothing. In fact, one





survey found that almost 80 percent of smartphone users in this country have never even replaced their phone [batteries](#), and 25 percent didn't even know this was [possible](#).

44. There are some 250 million cars in America, 250 million cars in the country with just over 300 million people. And most of those vehicles, of course, are gas [powered](#). This poses a huge challenge given the limited supplies of oil and the growing [urgency](#) of the global warming crisis. But there is good news, according to our guests today. And that is we have the know-how and the technology to build [sleek](#), fast automobiles that don't use gasoline. These vehicles of tomorrow are powered by [hydrogen](#), electricity, bio-fuels, and digital technology. And they already exist. So what's stopping us from putting them on the roads? Our guests today will help answer that.
45. You've heard about SARS, AIDS and bird flu. Now [researchers](#) from Australia claim we're about to be hit by a new epidemic: Motivational Deficiency Disorder. According to the British Medical Journal, one in [five](#) people are said to suffer from Motivational Deficiency Disorder, or Moded, and most don't even know they have it. [Symptoms](#) include being unable to get out of bed in the morning, being trapped on the couch.
46. Obviously, this is all relevant to your final [assignment](#). So we're going to talk about it. So until today, we've gone through face to face interviews as the main sort of part of interviewing the window. Today we're going to have a look at going to use an email and why they work, why they don't necessarily work, and what are the [challenges](#) and some of the things that we need to be understanding, you know when we are completing such interpreters. So let's start with the foreign one. Obviously, there are a few [benefits](#) to them, and they are listed there up on that slide. It's obviously less stressful for those of you who might be a little bit [anxious](#) about interviewing.



47. Dams are huge man-made structures that act as [barriers](#) on a river. Today, the main reason people build dams is to produce electricity. They are also built to [restrict](#) and control the flow of water in a river. Throughout history, dams have been used to prevent flooding and to [irrigate](#) farmland. Dams supply about a sixth of the world's electricity and they significantly reduce the risk of floods and [droughts](#) . They also make water easier to access, especially in desert like areas, where water is in low supply. There are however, some negative effects of damming rivers. Many people's homes are knocked down to make space for the dam, and flooding can [occur](#) in the reservoir, which is the area behind the dam where water collects . This can cause valuable farmland to become submerged under the lakes.
48. Another way in which the industry exerts pressure on doctors is by offering us a variety of [professional](#) services. In one of these services, widely advertised to GPs, a company representative shows the Practice Manager how to use a company disk to 'trawl' through the practice database identifying patients with problems which might be treatable with the company's products. When that has been done, a company-sponsored nurse interviews the selected [patients](#) and draws up a management plan for the GP which, if approved by the doctor, attracts a Medicare item number. One of these companies proudly announces that over 65,000 patients were [assessed](#) in this way in 2005. What, one may ask, is a pharmaceutical company doing assessing patients? It is surprising that no government or professional body has stepped in to prevent this commercially sponsored program.
49. It is about a hundred years since that great Canadian-born physician Sir William Osler, Regius Professor of Medicine in Oxford, [complained](#) about the increasing influence of the pharmaceutical industry on the medical [profession](#) . He would be turning in his grave at the way the industry now dominates



doctors' [prescribing](#) habits. It does this not only by direct and indirect pressure on the doctors themselves, but also by [encouraging](#) the public to ask for scripts.

50. And one particular crop, almond in the US and now in Australia, is [transforming](#) the world of beekeeping and of bees. What has happened is that something serendipitous came along that people found out, that doctors found out that almonds are good for you, a [confection](#) but it's good for you. The Almond Board got a very aggressive promotion going on for almonds. They actually, I just heard recently, send out sales reps to cardiologists at hospitals to promote the heart benefits of almonds. In a very good promotion of almonds, and it's [legitimate](#) promotion because they are a healthy food.
51. Green chemistry is a concept designed to develop [technologies](#) which allow chemistry to be practiced with minimal damage to the environment or in an environmentally [compatible](#) way. And it's meant to cover both chemical processes and chemical [products](#). The center, if you would, set up about seven or eight years ago, and the idea was to provide a hub of activities that covered [fundamental](#) research work, industrial collaboration, but also educational developments. So we work with schools and on public projects as well, and also networking. So we network out to well over 1000 people around the globe.
52. Well, the simple explanation might be that yesterday's [sudden](#) drop in share prices pretty much across the board has created what market analysts like to call a buying opportunity. It tends to bring out investors to pick through the ruins, looking for [bargains](#). Decision by investors that sellers got a little carried away with things so the buyers have [lifted](#) all the major indexes today. The Dow, the NASDAQ, the S&P 500 were all up around half a percent in early trading today, and that wasn't a big surprise. The sell-off continued



somewhat [overseas](#) European markets remain fairly weak, along with many of the Asian markets. But you'll remember that all this started with a big [plunge](#) of around 9 percent on the stock market in Shanghai. Well, Chinese rebounded by around 4 percent.

53. Well, I'm absolutely delighted first of all to have been [appointed](#) to this professorship. The role is going to be about public engagement in science, it is about marketing science [accessible](#) to as wide an audience as possible, it's about making it easier for our [academics](#) here at the University of Birmingham to talk about their research to the general public and it's not just about a one-way flow of information, it very much is about dialogue.
54. My current research at the moment is really quite broad. I work at the interface between the Arts and Humanities, particularly [archeology](#), but trying to find questions which are difficult to answer unless you start integrating computing and [visualization](#) So really, I work in this boundary between trying to understand cultural questions about the past, but those sorts of questions that you can't address unless you start reconstructing, start modeling and visualizing past [landscapes](#) objects and movement of people.
55. Rebuilding carbon-rich agriculture soils is the only real productive, [permanent](#) solution to taking excess carbon dioxide from the atmosphere. She's [frustrated](#) that scientists and politicians don't see the same opportunities she sees. This year Australia will [emit](#) just over 600 million tonnes of carbon. We can sequester 685 million tonnes of carbon by [increasing](#) soil carbon by half a percent on only 2% of the farms. If we increased it on all of the farms, we could sequester the [whole](#) world's emissions of carbon.
56. These two paintings, both called "Sunflowers," are generally accepted as the finest of several [depictions](#) of the thick-stemmed, nodding blooms that Van Gogh made in 1888 and 1889 during his time in Arles. The first is now in the





collection of the National Gallery in London, and the second is in the Van Gogh Museum in Amsterdam. Van Gogh referred to this work as a [repetition](#) of the London painting. But art historians and curators have long been [curious](#) to know how different this “repetition” is from the first. Should it be considered a copy, an independent artwork or something in between? An [extensive](#) research project conducted over the past three years by conservation experts at both the National Gallery and the Van Gogh Museum has concluded that the second painting was “not intended as an exact copy of the [original](#) example,” said Ella Hendriks, a professor of conservation and restoration at the University of Amsterdam, who was the lead researcher on the project.

57. Jack Nicholson, playing the crazed caretaker in *The Shining*, makes me reach for a blanket. Now a study finds that people we find, well, creepy can actually make us feel colder. The research will be published in the journal [Psychological Science](#). Researchers interviewed 40 college undergraduates. During each interaction, the experimenter was either chummy with the student or very stiff and [professional](#). The investigator also alternated between mimicking students' posture – a signal of rapport – and not doing anything at all. Participants then completed a questionnaire designed to find out how hot or cold they felt. The results showed that the subjects actually felt colder when the investigator acted inappropriately or sent mixed signals. The researchers conjecture that because the brain tries to interpret social cues and purely physical ones [simultaneously](#) people unconsciously associate icy stares and chilly interactions with actual physical coldness. So the next time you have to visit your doctor with the creepy [receptionist](#) bring a sweater.
58. An economist sees the world basically through a typical micro-economic toolkit. That involves things like thinking at the [margin](#), rationality, opportunity





cost, trade-offs. Economists like any other discipline rules, and its own way of seeing the world. So basically economics, or economists in general tend to [apply](#) micro-economic concepts like that to explain the way humans [behave](#) and to make predictions about the future.

59. Finally, we take a look at how to mix and unmix [liquids](#) at the flick of a switch. Sandrine tells us more. Oil and water don't usually mix, but the new chemical sensitive to light has been added here to [blend](#) them together. When [exposed](#) to UV light, the chemical changes its structure and become soluble in water. This causes two layers to form with the oil floating on top of the water chemical combo. This method should be cheaper than the current [alternative](#) which involves using high energy centrifuges.
60. What is nanotechnology? Well, a report that was put together by a [combination](#) of the Royal Society and the Royal Academy of Engineering that came out last summer, [identifies](#) two topics. Nano science is the study of [phenomena](#) and the manipulation of materials at atomic, molecular and [macromolecular](#) scales, where properties differ significantly from those as a larger scale. Nanotechnologies are the design characterization, production and application of [structures](#) , devices and systems by controlling shape and size at the nanometer scale. So I'll talk a little bit more in a moment about what a nanometer is, but [loosely](#) speaking people think of nanotechnologies as being a sort of a hundred nanometers or less.
61. Financial markets swung wildly yesterday in frenzied trading market by further selling of [equities](#) and [fears](#) about an unraveling of the global carry trade. At the same time trading in the European credit markets in London was exceptionally [heavy](#) as traders frantically reassessed their appetite for risk- prompting wild [swings](#) in the prices of the key derivatives. It was the third day of frenetic activity in the European credit markets, suggesting that equity



market swings were prompting a wider repositioning of investors in a host of asset classes.

62. For many years the favorite horror story about [abrupt](#) climate change was that a shift in ocean currents could [radically](#) cool Europe's climate. These currents, called the overturning [circulation](#) bring warm water and warm temperatures north from the equator to Europe. Susan Loosier, an [oceanographer](#) at Duke University, says scientists have long worried that this ocean circulation could be disrupted.
63. Along the way, we have built [unashamedly](#) beautiful buildings, two of which have won and been runner-up in the prestigious United Nations World [Habitat](#) Award: the first time an Australian building has received that international honor. We rely on older [concepts](#) of Australian architecture that are heavily influenced by the bush. All residents have private verandas which allow them to [socialize](#) outdoors and also creates some "defensible space" between their bedrooms and public areas. We use a lot of [natural](#) or soft materials and build beautiful landscaped gardens.
64. Some years ago, Bjorn Lomborg, a young Danish statistician, published a book called The Sceptical Environmentalist. It became a [bestseller](#) and generated a lot of heat. Lomborg was attacked, abused and [accused](#) of all manner of things; not because he denied the fact of global warming - in fact he [affirmed](#) it - but because, on his analysis, the devil and, he says, a lot of [deviousness](#) was contained in the details presented concerning the size of the problem and what were the most [responsible](#) steps to take in response to global warming.
65. In animals, a movement is coordinated by a cluster of neurons in the spinal cord called the central [contract](#) pattern generator (CPG). This produces signals that drive muscles to contract rhythmically in a way that produces



running or walking, depending on the [pattern](#) of pulse. A simple signal from the brain instructs the CPG to switch between [modes](#) such as going from a standstill to walking.

66. Laurence Stephen Lowry RBS RA was an English artist. Many of his drawings and paintings depict Pend Ledbury, Lancashire, where he lived and worked for more than 40 years, and also Salford and its surrounding areas. Lowry is famous for painting scenes of life in the [industrial](#) districts of North West England in the mid-20th century. He developed a [distinctive](#) style of painting and is best known for his city landscapes peopled with human figures often referred to as [matchstick](#) man. He painted mysterious unpopulated landscapes, brooding [portraits](#) and the unpublished "marionette" works, which were only found after his death.
67. Now that story's been scotched, as only part of contingency planning. But it was a symptom of the dramatic turn of events in South Australia, and it flushed out other remarks from water [academics](#) and people like Tim Flannery, indicating that things were really much worse than had been [foreshadowed](#) , even earlier this year. So is Adelaide, let alone some whole [regions](#) of South Australia, in serious bother? Considering that the vast amount of its drinking water comes from the [beleaguered](#) Murray, something many of us outside the State may not have quite realized. Is their [predicament](#) something we have to face up to as a nation?
68. All around the world, significant parts of our cultural heritage are by pollution, neglect, [carelessness](#) and greed. In learning the importance of our history, we come to understand the need to protect significant [remains](#) from the past so that future [generations](#) can come to understand their heritage.
69. For a long time now, it's been a widely accepted and [rarely](#) questioned belief that a strong corporate culture goes hand in hand with success. However, a



recent study has [cast](#) some doubt on this principle. After all, the [authors](#) of the report argue for culture. A company's build-up may be strong, but wrong. There is little point in every [employee](#) marching to the same tune if they are all marching in the wrong direction.

70. Also, malaria is something that is a very complex disease with this complex life cycle. That means that if you're going to [eliminate](#) it, you have to be able to target cute parasites and humans. You have to be able to target parasites in the mosquitoes, that mosquito [population](#). And so that requires a lot of resources. It requires really good planning and a health system across all these different [levels](#). And so I think the political capital that you need for that, the educational [infrastructure](#) you need for that, the economic resources you need for that are quite a [challenge](#).
71. There are some common reasons to explain why early civilizations developed in different places and different [times](#) around the world. Each ancient civilization that has been discovered developed in places where there was a [reliable](#) water supply (usually on the banks of major rivers), and where the soil was [fertile](#) enough to grow crops.
72. We can gain an accurate [knowledge](#) of the past only if we know the age of the different sources being [investigated](#). Without this information, historians and archaeologists could not be sure of the order in which different areas were settled, used and [abandoned](#). They would not always be sure if a particular object was real or [forgery](#).
73. Historians can represent events that have happened in past [centuries](#) on a timeline, showing the four major [periods](#) of human history. A timeline is a good way to help us get history into [perspective](#). It shows events from the past in a clear [chronological](#) order – that is, from the earliest to the latest event.





74. Archaeologists look for clues that indicate that an area is worth [digging](#) up. Clues may come from the [writings](#) of someone in the past who has described the [existence](#) of a particular town or burial site. Sometimes sites are accidentally discovered during [excavation](#) for the construction of buildings, roads, dams or railways.
75. Ebola virus, the [bacteria](#) that causes plague, a [pandemic](#) strain of flu – if any of these pathogens could be turned into bioweapons by terrorists or rogue nation states, they would threaten humanity. Most life scientists have little awareness of [biosecurity](#) issues, according to a National Academies report released today. And it says there are “multiple shortcomings” in the systems [designed](#) to stop potentially risky research from being published.
76. A new process for 3D-printing things could pave the way for lighter, faster aircraft that [potentially](#) fly further on the same amount of fuel. Today’s airplanes are held together with thousands of metal rivets and fasteners. That’s because the lightweight but strong [aluminum](#) alloys used for their frames are considered unwieldable. Try to weld them and you get a phenomenon called hot-cracking, in which the finished alloy weakens and [fractures](#) as it cools. This and other adverse welding effects also stand in the way of 3D-printing high-strength aluminum alloy parts. When researchers have tried, the resulting laser-fused mass [flakes](#) away at the welding area like a stale biscuit.
77. Popular ride-sharing firm Uber has had its license to operate in London [revoked](#) in a surprise move by the city’s regulator. There were multiple reasons for the decision. TfL cited the company’s approach to reporting criminal offences. In August, a senior officer within London’s Metropolitan Police Service wrote to TfL about Uber’s slowness to report a passenger’s [accusation](#) that her driver had sexually [assaulted](#) her. TfL said it was also concerned about



how Uber obtained medical certificates and criminal records checks for drivers. The straw that broke the camel's back may have been the company's "Greyball" software – an internal application that Uber may have used to block regulators' [oversight](#) of the Uber app.

78. All earthquakes look the same when they start, making it unlikely we will be able to predict which will cause the most [devastation](#) from early [observations](#). Early warning systems rely on seismometers picking up [tremors](#) and sounding the alarm for nearby cities before major shaking starts. Even a few seconds' warning can make a lot of difference, both for individual people and for organizations like hospitals. For example, Mexico's early warning system gave everyone a 10 to 15 second heads-up before Tuesday's [magnitude](#) 7.1 earthquake.
79. Another arm of the United States government was the FSA, the Farm Security [Administration](#), and they had a peculiar task, because in addition to the Depression, which had obviously hit farmers quite hard because suddenly the material that they were producing wasn't really as [value](#), yet their costs for producing it were exactly the same, they were hit not only that but also by another problem which was the Dust Bowl; and the Dust Bowl was this terrible [broad](#) that hit the American West and Southwest especially, and caused terrible economic problems for those farmers.
80. I'm going to argue that the [tremendous](#) increases in productivity that we [associate](#) with the industrial revolution originate not so much from changes in science or [technology](#) or new inventions, where England was far from [unique](#) as from changes in attitudes, attitudes towards morality, towards what constituted the good. Attitudes towards property, which became in England individuals long before it did on the [continent](#). Attitudes toward the proper





role of government. And [together](#), these attitudes constitute much of what the Luddites were protesting against.

81. We are trying to understand the locomotion of one of our closest living [relatives](#), which is the orangutan, and also the locomotion of all of the apes and the common ancestor of humans and the other apes. And in that area, we have had a big problem [traditionally](#), and that we know a lot about how they move around the forest. I've been out to the forest and spent a year recording the [different](#) types of locomotion they use, but we have no idea about the [energetic](#) cost of how they move around the forest and the solutions that they find to problems of moving around the canopy. And what we're doing here is using the park or athletes as an analogy for a large bodied ape moving around a complex [environment](#) and getting them to move around in the course that we've made that they've never seen before. And we're going to record their energetic expenditure while they're doing it.
82. Asteroid collisions can be – just ask the dinosaurs – but they also bring key [ingredients](#) for life. Super-Earths can draw them to nearby worlds. Super-Earths – planets that are up to 10 times more massive than Earth – might play [billiards](#) with planetary systems. New simulations suggest that if a super-Earth existed in our own solar system, say between Venus and the Earth, far more asteroids would [collide](#) with us. But that isn't necessarily a bad thing, if the timing is right. Understanding the effect of these massive planets on others nearby could help direct the search for life on exoplanets.
83. If you have paraskevidekatriaphobia, today is not your day. That's right, paraskevidekatriaphobia is fear of Friday the 13th and the accidents, mishaps and misfortunes thought by some to occur on that day. But is there anything really to fear? In fact, a study was [conducted](#) and published back in 1993 in the British Medical Journal that looked at hospital admissions due to



accidents on one Friday the 13th [compared](#) with the previous Friday the 6th. The researchers tracked traffic on a highway in one area and found that many fewer cars were on the road on the 13th. Perhaps due to people being leery of driving on that day. But hospital [admissions](#) in that area due to traffic accidents was actually higher. Forty-five people were admitted on the 6th but 65 people were admitted on the 13th. The researchers [concluded](#) that a few people were indeed unlucky. On that Friday the 13th. In that part of England. Then again, what you really needed for this study was a [control](#) group that stays home, only to slip in the bathtub.

84. It's tough to pick a [familiar](#) face out of a crowd – but focusing on a known voice in a noisy room is easy. And a new study scanned volunteers' brains to look at how we solve the so-called cocktail party problem. The work is in the [journal](#) Nature. Researchers recorded the activity of the subject's cerebral cortexes while playing them sentences spoken by different voices. First, the subjects listened to individual sentences and reported key [features](#) of each one. Then, they heard two different sentences played at the same time, but had to listen to and recall details from only one voice. Each voice drew a particular response from the auditory cortex. And even with an extra sentence playing [simultaneously](#) researchers saw that the cortex responded specifically to the voice that the subject was focusing on. This finding indicates that our brains process sound based not only on the audio input they [receive](#)-, but also on our listening goals. And it could lead to speech recognition systems that are [accurate](#) in crowds – even at a cocktail party.
85. Obese people have higher risks for [diabetes](#) heart disease, arthritis – and injuries in car accidents? Yes, in part because they're far less likely to wear a seat belt. That's the finding of a study out of the University of Buffalo that will be presented at an upcoming meeting of the Society for Academic



Emergency Medicine in Chicago. The researchers analyzed data in the national Fatality Analysis Reporting System of the National Highway Traffic Safety Administration. The study included a third-of-a million drivers involved in [fatal](#) crashes. Two years ago, the research group found that morbidly obese people were 56 percent more likely to die in a car crash than normal weight car occupants. The new study [revealed](#) that drivers of normal weight are 67 percent more likely to wear a seat belt than are obese drivers – which could account for at least part of the increased death risk. The researchers hypothesize that [overweight](#) people find belts uncomfortable and difficult to buckle. A weight loss [program](#) can address the problem in the long run. An inexpensive seat belt extension can solve it today.

Gurully



## WRITE FROM DICTATION

1. Students are encouraged to take part in their study as well as games.
2. The use of wind energy has increased rapidly.
3. Students must know the technological aspects of the society.
4. Major sports on campus include rugby, soccer, and tennis.
5. All the student union students can register their names to get that service.
6. The program depends entirely on private funding
7. To get further extension, you need to call the education executive on 401.
8. Effective presenters make eye contact with the audience.
9. Every student has a regular meeting with his or her personal tutor.
10. As student union members, we can influence the change of university.
11. Industrial experts will discuss job opportunities in an automatic labor force.
12. It would be extremely beneficial to work together.
13. Manufacturing now brings more people in than agriculture and fishing combined.
14. More research is needed before any definitive conclusion is drawn.
15. Several candidates will be qualified as the greatest scientists of all time.
16. The cooperator operates a continuous assessment.
17. The site is designed to be highly interactive.
18. There are more opportunities to receive the grants in most artistic fields.
19. You do not need to have specialist knowledge to be able to read the book.
20. This course puts great emphasis on critical thinking skills.
21. Despite their differences, all forms of lives share the same characteristics.



22. Many vocational courses in the institution are funded by private enterprises.
23. Traffic noise is intensified by high buildings.
24. The main aim is to introduce educational reforms.
25. A computer virus has destroyed all my files.
26. We no longer respond to any postal reference requests.
27. Keeping organized class notes makes study time more efficient.
28. Children need books in their own language with settings that reflect their lives.
29. Our students have participated in exchange programs to widen their horizons.
30. All students join art classes in the first term.
31. Statistical results should be expressed in different ways depending on the circumstances.
32. She has made a significant contribution to the field of chemistry.
33. Scientists are always asking the government for more money.
34. Safety glasses should be worn while doing experiments in the lab.
35. Recession triggers creativity and high rates of entrepreneurship due to past experience.
36. Read the student safety instructions before using any equipment in the workshops.
37. Participants are initially selected from a range of foundation subjects.
38. Organizational failure is considered from various perspectives in academic literature.
39. Organization plays an important role in academic literature.
40. We can have a lecture on the morning of Thursday.
41. The railways were made to make distant travel possible.



42. The archaeologist's new discoveries stand out in previously overlooked foundations.
43. Biology department is dedicated to research activities.
44. Students who are successful have a good strategy for learning.
45. Students have the options to live in college residences or apartments.
46. Student concession cards can be obtained by completing an application form.
47. All students can learn, even though they have different speeds.
48. Please make an appointment with your tutor about work.
49. The paper must be reviewed thoroughly and appropriately.
50. It is compulsory to attend the laboratory instruction.
51. Any game must be properly elaborated.
52. There is no ideal debate on this topic.
53. Research shows that knowledge and experience are essential to creativity.
54. This guide is qualified to lead the groups into the mountains.
55. Marketing involves many activities including doing researches, developing products and promoting them.
56. The results of this research presented a value of the balance of the ecosystem.
57. The key to clear writing is clarity of thought.
58. The university offers a wide range of courses according to your commitments.
59. In the new project, you have to present the different items.
60. Accountancy students need to submit their dissertations this week.
61. The integration of archeologists' studies with community projects is widely encouraged.





62. Students of the first year usually live on campus.
63. The full list of undergraduate programs can be found on the website.
64. It is necessary to attend the laboratory introduction.
65. They are most likely to achieve more of these objectives.
66. You may be charged for additional art supplies.
67. Social media has a significant impact on journalism.
68. Muscle cells bring parts of the body closer together.
69. It is important to plan your study time carefully.
70. Our faculty includes five libraries in the university.
71. Houses were built for workers near the factories.
72. Computers used to be larger than they are now.
73. Social psychology is concerned with the understanding of human behaviors.
74. Formal conclusions could be established through rigorous experiments.
75. You are required to attend lectures and write weekly reports.
76. Many different conferences offer opportunities for volunteer work.
77. Gravity is the force that attracts two bodies toward one another.
78. The notification will not be received until the following week.
79. A new article was published regarding the university last week.
80. You will acquire many skills during the academic studies.
81. His analysis appeared to be based on the fourth premise.
82. Average earning has risen slightly over the decades.
83. I cannot hand out my dissertation this week.
84. Political assumptions are based on voting behaviors.
85. A treaty deal built between two countries was just announced.
86. All of your arguments must be supported by evidence and relevant theories.



87. Marketing is a very important activity for many businesses.
88. Certain films are hard to be classified into one single genre.
89. Before writing down your notes, check the accuracy of your data.
90. A good academic essay should have a clear argument.
91. The election of president is held once every four years.
92. The new lecture theater accommodates a large number of students.
93. Many governments found that it was difficult to reduce poverty in our society.
94. Be careful when you use English translators.
95. The library is open only on Mondays and Fridays.
96. Mutually exclusive events can be described as either complementary or opposite.
97. Most of these features were part of the previous system.
98. It was hard to anticipate how all the different characters would react.
99. It is important to make clear notes while you are reading.
100. In this language course, we focus on fluency and accuracy.
101. Good research delivers practical benefit to real people.
102. Geography is generally divided into two branches: human and physical.
103. Experts are now able to forecast weather over much longer periods.
104. Education and training provide important skills for the labor force.
105. Economic problems caused a big rise in unemployment.
106. If you need any assistance please get help from the general office.
107. You need student identification to borrow books from the library.
108. His humorous remark made everyone in the room laugh
109. The town provides a wide choice of entertainment
110. I recommend that you should get some professional advice
111. He picked up his bags and hurried across the courtyard.



112. This dictionary tries to simplify the meanings of words
113. During the war children suffered from a deficiency of food
114. Teachers must keep a record of students' attendances
115. We are confident that the profits will be higher next year
116. She will take her professional exam later this year
117. She developed a passionate interest in wild flowers
118. The factory has achieved a steady growth in output
119. There is no proof that the document is authentic
120. The country's trade extended from China to Sweden
121. Parents have the authority to discipline their children
122. Physics is a detailed study of matter and energy.
123. Money laundering has become a major issue nowadays in most parts of the world.
124. Contemporary critics dismissed his idea as eccentric.
125. We must decide how to utilize the resources we have
126. There's some doubt about his suitability for the job
127. The prices for food are subject to variation
128. The disease occurs most frequently in rural areas
129. You should be careful when searching internet sources.
130. Many people think they are more talented than others.
131. Students must clean their hands before attending the engineering workshop.
132. She is an expert of the eighteenth-century French literature.
133. The sports team members often practice on weekdays and play games on weekends.
134. All students and staff have the access to printers and scanners.
135. If you need any assistance please get help from the general office.



136. The literature lesson will be divided into four units
137. The program has been successful since its inception
138. Anatomy is the study of internal and external body structures
139. Her property was assigned to her grandchildren
140. Currently, computer literacy has become essential in many workplaces
141. We have done everything we can to standardize the procedure
142. Each new product would have a relatively long-life cycle
143. We are going to demolish the old building next week
144. She was sitting outside a cafe in the sunshine
145. Students who study overseas can significantly improve work chances.
146. Time and distance are used to calculate speed.
147. A group meeting will be held tomorrow in the library conference room.
148. Strong liner is used to measure distance and baseline.
149. Listening is the key to succeeding in this course.
150. Astronauts are using light years to measure the distance in space.
151. Make sure you choose a course that provides great career opportunities.
152. The garden behind the university is open to the public in summer.
153. The history of the university is a long and interesting one.
154. Students find true or false questions harder than short answers.
155. The new media has transcended the traditional national boundaries.
156. Some people are motivated by competition, while others prefer to collaborate.
157. Salt is produced from the seawater or extracted from the ground.
158. We need to answer security questions if we want to reset the password.
159. The bus to London will leave ten minutes later than expected.
160. The collapse of the housing market has triggered recessions throughout the world.



161. Students should leave their bags on the tables by the door.
162. Late applications are not accepted under any circumstances.
163. We can all meet in the office after the lecture.
164. Journalism faces the crisis in the light of the digital revolution.
165. Sugar is a compound which consists of carbon, oxygen, and hydrogen.
166. International exchanges formed the important part of our study program.
167. The castle was designed to intimidate both local people and the enemies.
168. The output should be proportional to the input.
169. This guide book offers information on local customs policies.
170. I went down into the cellar for more wine.
171. The tree began to decay as soon as it was cut down.
172. He had always obeyed his parents without question.
173. There has been a sharp slowdown in economic growth.
174. Farmers used to hire themselves out to whoever needed them.
175. The governor has denied making improper use of the state money.
176. He was made president of the football club.
177. The book on the shelf is a carefully documented biography.
178. The old lady was an industrious and willing worker.
179. The ship was helpless against the power of the storm.
180. All our results are published in scientific journals.
181. The student service center is located on the main campus behind the library.
182. In computer science degree, there is a new module in artificial intelligence.
183. The instant availability of information has radically changed people's lives.



184. During that time people had large families as an insurance against some children loss.
185. Understanding ancient poetry is efficient for the project.
186. The rising temperature has led to lower agricultural output.
187. You can borrow eight books from the library at a time.
188. Journalists need to work with a range of technologies.
189. In computer science degree, there is a new module in artificial intelligence.
190. The guidelines are due to be updated shortly.
191. The student service center is located on the main campus behind the library.
192. Please cite several sources in your work.
193. Students must present a valid identification to enroll in this course.
194. Universities across the United Kingdom welcome a range of students.
195. The university now faces a serious challenge of finance.
196. Scientists use new technologies in labs.
197. It is not always possible to find patterns in data.
198. Apple is expected to announce several new products this fall.
199. Remember to bring calculators to class next week.
200. Students must wear protective clothing provided in the medical laboratory.
201. Nature is defined as specific chemical compounds.
202. Kindness is very important nowadays.
203. You are advised to submit all the dissertations
204. The new articles for the study and the subject are collected.
205. The postgraduate education depends entirely on private funding.
206. The instant availability of information has radically changed people's lives.





207. The new drug will be generally available from January
208. The arrival of armed police made the students disperse
209. The education department has now made these courses obligatory
210. University teachers are required to supervise students' examinations
211. The professor adapted his lecture to his audience
212. This college admits students anytime during the year
213. Everyone in the class seemed eager to learn
214. Students are expected to be quiet and polite in the classroom
215. The shops in central London keep open late on Thursday evenings
216. The children's reading club meets every Monday afternoon
217. A commercial college teaches things that would be useful in business
218. At university she developed a special interest in ecology
219. He was invited to the lecture on American literature at our school
220. The company has adopted a firm policy on shoplifting
221. He taught physics to the students at a college ten years ago
222. The arrangements are all in place for the concert next month
223. Lack of motivation resulted in his failure of the project
224. A scientist must produce evidence in support of a theory
225. The government will maintain its strictly neutral policy
226. The doctors are discussing how to cure this patient
227. The chairman of the committee is expected to be back tomorrow
228. Every week we have a seminar on modern political theory
229. They trust in the information received from the girl
230. Mathematical physics is difficult for the new students
231. She collected a vast body of information on the subject
232. The findings are similar to those reported in previous research
233. Sociological studies emphasize the importance of the family



234. Her statement was a clear expression of her views on this program
235. The online handbook gives details of all courses
236. This university provides free accommodation for its students
237. Many small businesses have gone bankrupt in recent years
238. The company was sued for breach of copyright
239. Fish can take in oxygen when they are under water
240. He made an announcement of further cuts in government expenditure
241. The education system must satisfy the needs of all children
242. The communities are demanding equal rights and justice
243. Every student in this class is capable of passing the exam
244. We have been unsuccessful in finding a new manager
245. He's the president of a large international organization
246. The secretary of state is presently considering the proposal
247. The student was puzzled about what to do next
248. Mixture is defined as the compound of chemically separate parts.
249. The student union hosts a variety of social events.
250. The timetable for next term will be available next week.
251. Some people work for wages on a daily basis.
252. Physics is a detailed study of matter and energy.
253. The school rewarded him with a prize for excellence in his studies
254. The art course has been cancelled due to the new policy
255. University volunteers work together to help students who suffer from  
hunger
256. The government has to do more to promote agriculture
257. He became a poet after dropping out of high school
258. Watching television can be very educational for children
259. The professor took the students to the chemistry lab



260. The history exam tomorrow afternoon concerns him a lot
261. The university has decided to introduce new subjects
262. The factory will compensate its workers if they are hurt at work
263. Water will freeze when the temperature is below zero
264. At last, she passed the exam with a friend's help
265. The complicated problem is beyond my comprehension
266. Both runners had pushed themselves to finish the race
267. Many businesses near the campus offer students discounts.
268. We have to reduce the use of our plastic material
269. Exam results will be published on the noticeboard
270. The field of journalism has been seeing job declines for decades
271. Joining a society can help to meet new people
272. Online courses enable people to improve their skills while employed
273. Humans use symbolic languages to communicate plans and contentions
274. The lecture will take place in the main hall
275. Technological advancements are responsible for businesses' having to constantly change.
276. A wide range of aspects are covered in this subject
277. Students will get their marks by the combination of both assessments and examinations
278. Excellent knowledge is needed for mathematics
279. The university lecture theater will be closed for colossal renovation
280. The students are to submit their research on time
281. Keep your audience in your mind when writing an essay
282. They demanded a refund on unsatisfactory goods
283. The team has been successful in achieving challenging objectives
284. The motive power of trains is usually steam or electricity



285. The lack of facilities in the town may discourage potential visitors
286. You may not manage your time well without a reading list.
287. It is a debate about the value of knowledge.
288. All laboratory equipment will be provided in class.
289. Students live in the residence hall during the term time.
290. Optional tutorials are offered in the final week of a term.
291. I am glad that Professor Gordon just joined our faculty.
292. Road safety measures can reduce accidents.
293. All students do their homework at home.
294. The timetable will be posted on the website in the morning.
295. We are moving at a very fast pace.
296. Computer is a great source of knowledge for the students.
297. Currently the growth of the company is unpredictable.
298. It is clear that national trading system is a good thing.
299. Teachers are trained to stimulate the children's cognitive development
300. He still feels insecure about his ability to complete the work
301. The present system does little to deter corporate crime
302. He was in an argument with his landlord downstairs
303. Some people regarded it as care, while others regarded it as  
recklessness.
304. The results of the study underscored the discoveries from early  
detections.
305. The main problem is the increase of plagiarism exacerbated by the  
Internet.
306. This course will teach engineering students practical skills and concepts.
307. High fees caused students to look more critically at what universities offer.
308. Remember to take all your belongings when you leave the lab.



309. Weather patterns have changed significantly over the past two hundred years.
310. Good nutrition is crucial to general health and vitality.
311. As student union members, you can influence and change our university.
312. Archeologists discovered tools and other artifacts near the ancient tombs.
313. Farming methods across the world have greatly developed recently.
314. The earth's atmosphere is primarily composed of nitrogen and oxygen.
315. Laundry facilities are available in each school unit free of charge.
316. The project is divided into four main sections.
317. Law is beneficial to investors by protecting their rights and avoiding any improper actions in the market.
318. Critical thinking is crucial for mathematics.
319. The study of nutrition is a growing field.
320. Library reference desks hold a lot of materials on academic history.
321. The new paper challenged many previously accepted theories.
322. All students are expected to participate in all class activities.
323. Tribes vied with each other to build up monolithic statues.
324. Safety is the most important in the biology lab.
325. The library has a wide range of collection of images and films.
326. Researchers say many students feel stressed and affect academic results.
327. There is a separate reading list for each course.
328. These words recognized the excellence of undergraduates' research projects.
329. The business policy seminar includes an internship with a local firm.
330. Democracy is constantly offering a stable form of government.



331. You shall be studying economies of several developing countries.
332. Human beings compete with other things for resources and space.
333. The posters are on display at the larger lecture theatre.
334. This survey will look at the greatest scientists of all time.
335. I thought it was thrown in a small meeting room.
336. This course can help to deepen your appreciation of art.
337. The government financial plan has threatened the social services.
338. All medical staff will be available for help for students.
339. Our lecture today will discuss the American War of Independence.
340. Economic development needs to be supported by the government.
341. Distance learning allows you to develop a career around your commitments.
342. Continuing students will be sent necessary application forms.
343. Your lowest quiz grade has been omitted from the calculations.
344. You will need to purchase an academic gown before the commencement.
345. You should submit your team papers to the general office.
346. You need to hand in the essay next semester.
347. You may need to purchase an academic gown before the commencement.
348. Good nutrition is crucial to the general health and vitality.
349. A good research assistant is not afraid to ask questions.
350. Understanding how to use the library will save your time.
351. Travelling by boat on the river is not possible in winter.
352. This course provides the opportunity to get valuable industry experience.
353. This course is integrated because it has several parts.
354. There is clearly a need for further research in this field.
355. There is a pharmacy on campus near the bookstore.





356. The toughest part of research for postgraduate students is funding.
357. The theatre courses are encouraging students to access creativity.
358. The teacher asked the group to commence the task.
359. The summer course was canceled due to insufficient re-enrollments.
360. The school's summer programs help students to accelerate their studies.
361. The rising temperature is changing the wildlife population.
362. The railway makes long-distance travel possible for everyone.
363. The meeting has some struggling overlaps.
364. The massive accumulation of data was converted into a communicable argument.
365. The lecture will cover the reason of climate change.
366. The key difference between courses is the kind of assessment.
367. The faculty staff are very approachable, helpful and extremely friendly.
368. The extent of advertising for children is open to much debate.
369. The economy is now on its first signs of recovery.
370. The earth's atmosphere is mostly composed of nitrogen and oxygen.
371. The city's founders created a set of rules that became laws.
372. The chemistry building is located near the entrance of the campus.
373. The camera can identify eyes and focus on them.
374. The cafeteria features sandwiches, salads, soup, fish and chicken.
375. The business plan seminar includes an internship with a local firm.
376. The bar chart provides useful means of data comparison.
377. The author's early works are less philosophical and more experimental.
378. The artists tied with the conservative politicians earned the roles of critics.
379. The application process may take longer than it's expected.
380. The poster of this play is hung in the large lecture theatre.
381. Artificial intelligence has made significant progress for the last few years.



382. The sociology department is highly regarded worldwide.
383. The field of social development includes descriptions of social behavior.
384. People in this kind of job tend to work long hours.
385. Their background gives them little chance of achieving at school.
386. His appointment with the Minister of Culture seems like a demotion.
387. This morning's lecture on economic policy has been canceled.
388. In any written assignment, a detailed literature review is very important.
389. We can't consider any increase in our price at this stage.
390. Students should take the training course to use the gym.
391. The extent of advertising for children is very much open to debate.
392. Many graduates of journalism can get jobs in the communications field.
393. A good abstract highlights the key points of a paper.
394. The university provides leisure activities for students and staff.
395. The school canteen sells a large variety of water and food.
396. The commissioner will portion the funds among all the sovereignties.
397. Philosophy uses a lot of logic and reasoning to analyze human experiences.
398. Reading widely is an important part of the undergraduate study.
399. There are a variety of disciplines in the field of engineering.
400. Lecture outlines are available on the college internal website.
401. Mobile devices are not allowed to be used during the examination.
402. Please click on the logo above to enter the site.
403. A very basic definition of computing is counting and calculating.
404. The momentum is defined as the combination of mass and velocity.
405. Summer schools allow some students to accelerate their studies.
406. Digital scans of archived materials are provided with a small fee.
407. There is a lecture going on just in front of the room.



408. Globalization has been the most important phenomenon in the United Arab Emirates.
409. The elephant is the largest animal living on land.
410. Many inventors in the engineering sector are inspired by nature.
411. Globalization has been an overwhelming urbanization phenomenon.
412. A few journalism students need to read the school newspaper.
413. More choices are available other than studying full time at university.
414. You may not be allowed to read any book without the reading list.
415. It took almost three years to build the football stadium.
416. Your term papers should include current social issues.
417. You may not manage your time well without a reading list.
418. It is a debate about the value of knowledge.
419. Digital scanners can scan all kinds of materials provided that they are in small pieces.
420. Today we have a guest speaker who is visiting from Canada.
421. During the examination, electronic devices must be left to the supervisors.
422. Before choosing your university courses, you should consider your future career.
423. Calcium's nutritional value enjoys growing popularity every year.
424. Students live in the residence hall during the term time.
425. The office opens on Monday and Thursday following the freshman seminar.
426. The essay should be clear during the exam.
427. Optional tutorials are offered in the final week of a term.
428. All essays and seminar papers must be submitted to your tutor via email.
429. Speaker began the outlines before the presentation.



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