

# PTE PREDICTION FILE

## July-Aug 2025

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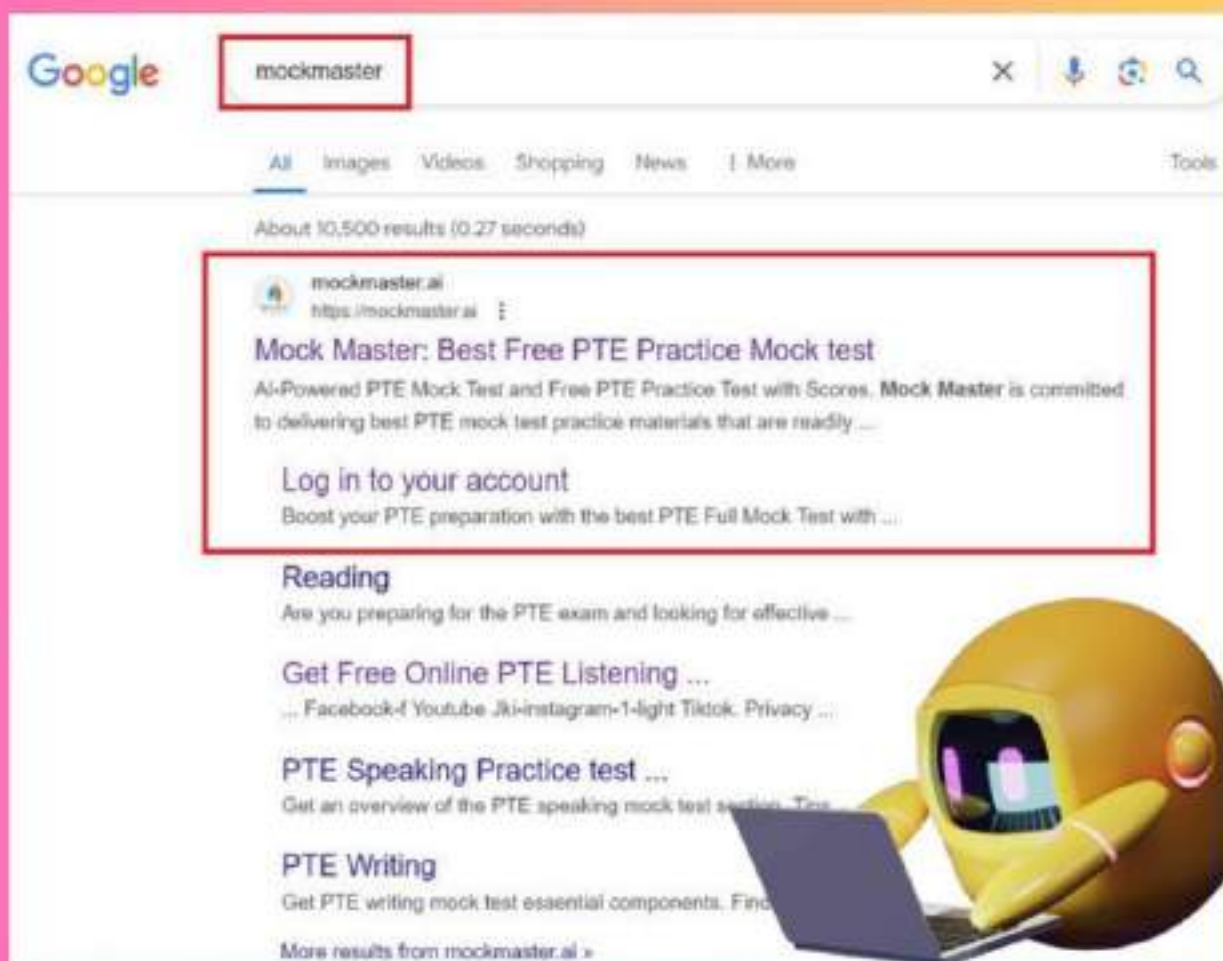


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## SPEAKING

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## READ ALOUD

### 1. Radio Burst

First discovered in 2007, 'fast radio burst' continue to defy explanation. These cosmic chirps last for a thousandth of a second. The characteristics of the radio pulses suggested that they came from galaxies billions of lights – years away. However, new works points to a much closer origin–flaring stars within our own galaxy.

### 2. Yellow

Cheerful sunny yellow is an attention getter. While it is considered an optimistic color, people lose their tempers more often in yellow rooms, and babies will cry more. It is the most difficult color for the eye to take in, so it can be overpowering if overused. Yellow enhances concentration, hence its use for legal pads. It also speeds metabolism.

### 3. Chinese Hackers

The Office of Personnel Management was the target of the attack, but data from nearly every government agency was stolen. U.S. investigators say they believe Chinese hackers were behind the breach.

### 4. Mitigation

As far as politics go, the responses are just as varied. Mitigation is common and calls for are duction of emissions and less reliance on fossil fuels. Coal burning power plants are now replaced with hydraulic power plants and electrical cars are replacing some gasoline efficient cars. Many people, however, feel that this is not enough.

### 5. Donor Countries

In 2005, donor countries agreed on an accord to harmonize their practices. Since then, aid officials have complained that too little has changed on the ground. Conferences of donors in developing countries still tend to be dominated by a small group of north European governments, with the US often absent.

### 6. Coastal Wetlands

The coastal wetlands have environmental and economic importance. Wetlands provide natural wealth. They have important filtering capabilities. As the runoff water passes, they retain excess nutrients and some pollutants. They maintain water flow during dry periods. Thousands of people depend on ground water for drinking. They act as natural sponges of flood waters and contains oil erosion. They control floods and save the buildings from collapsing during heavy rains.

### 7. Tsunami

The tsunamis could provide crucial information about the habitability of ancient Mars. The first one occurred when the planet must have been relatively warm and amenable for life, because it carved out backwash channels as it returned to the sea. By contrast, the planet had become much cooler by the time the second tsunami hit.

#### 8. Vulnerable Group

The second group that is particularly vulnerable are night shift workers, and the third group that is particularly vulnerable are people with sleep disorders, particularly sleep apnea. One out of three men and one out of six women have sleep apnea. And yet, 85 percent are undiagnosed and untreated. And it more than doubles the risk of cancers.

#### 9. Not-for-profit University

A university is not a business. More precisely, a not-for-profit college or university is significantly different than a for-profit business. A university has no owners and it is a public trust. A business has a single over-riding goal: the maximization of return for the owners. A university has a multiplicity of goals: to foster learning, to create knowledge, and to serve its community.

#### 10. Margaret Simons

Margaret Simons explains the changes taking place in the Australian media. She analyses audiences, our major media organisations, the role of government and the implications of all of these for our society and our democracy. Her examination leads her to the conclusion that the challenges facing the content providers in the modern world are part of a broader striving.

#### 11. Global Management

The one-year program of the master in global management is designed only for those who have the graduate degree in the thesis. It increases the temporary skill of new managers in an international capacity, something that recruiters are looking for more and more.

#### 12. Fiscal Year

At the beginning of each fiscal year, funds are allocated to each State account in accordance with the University's financial plan. Funds are allocated to each account by objects of expenditure. Account managers are responsible for ensuring that adequate funds are available in the appropriate object before initiating transactions to use the funds.

#### 13. Cup Village

The government is still not sure whether its alternative idea for the Auckland's America's Cup Village is viable, a week out from the start of the planning approval process. Auckland Council is seeking approval to build eight bases across three wharves, but the government was in favour of focusing on the semi-industrial Wynyard Point, to lessen the extension of wharves.

#### 14. Paracas Glyphs



Unlike the iconic Nasca lines — most of which are only visible from overhead — the older Paracas glyphs were laid down on hillsides, making them visible to villages below. The two cultures also pursued different artistic subjects: Nasca lines most often consist of lines or polygons, but many of the newfound Paracas figures depict humans.

#### 15. Baidu

China's biggest online-search company, Baidu, said it would make its self-driving car technologies available to others. In a bid to advance autonomous vehicles—and perhaps to become an industry standard in the same way that Google's Android operating system is for smartphones—Baidu's Apollo project will distribute technologies to developers and carmakers, initially for use in restricted environments, as soon as July.

#### 16. Magnetar

The best comparison is likely a magnetar, a young neutron star with a powerful magnetic field, the researchers said. Magnetars also produce bright X-ray flares. While magnetars are thought to be young stars, the two flaring objects in this study reside near elliptical galaxies, which contain older stars. So, the objects are likely too old to be magnetars, the researchers said.

#### 17. Parkinson

C. Northcote Parkinson, a British writer, formulated Parkinson's rule: "Work expands to fill the time allotted to it; or, conversely, the amount of work completed is in inverse proportion to the number of people employed." Simply said: If you have an hour to do a 5-minute job, it will take an hour to do it. A large number of people accomplish less work than a smaller number of people.

#### 18. Introvert and Extrovert (B)

Although introvert and extrovert personality types differ from one another on various grounds, the major difference between the two is their source of rejuvenation. While for extroverts, this may mean interaction or excursions with friends and family, the same may mean reading a book or listening to music for introverts.

#### 19. High Quality of Life

In spite of the spectacularly high quality of life for the vast majority of the people who live in the European Union, its inhabitants seem obsessed by the region's relative decline in the world. Slow economic growth rates and high unemployment have reinforced the impression that Europe is unhappy with today and unsure of tomorrow.

#### 20. Gut Microbiome

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.

## 21. Himalayan Glaciers

A team of international researchers has uncovered a fascinating phenomenon: in response to rising global temperatures, Himalayan glaciers are actively working to preserve themselves by cooling the air in contact with their ice surface. However, it remains unclear how long these glaciers can continue to fight back against the effects of climate change.

## 22. Eye Issues

During the winter season, various eye issues can arise due to harsh weather conditions. Excess tearing and watery eyes, often caused by cold air and icy winds can lead to eye redness and inflammation. This can often be due to dry eyes from the combination of entering and exiting the cold weather and rooms that have been heated with central heating.

## 23. Stressful Occupations

Just how stressed are teachers? A recent Gallup poll found teachers are tied with nurses for the most stressful occupation in America today. Unfortunately, that stress can have a trickle-down effect on their students, leading to disruptive behaviour that results in student suspensions.

## 24. Norms and Value

Norms and values are important concepts in sociology that shape human behavior and social interactions. Values are the fundamental beliefs that guide individuals' actions, while norms are the expectations that society has for people's behavior. In other words, values determine what is right or wrong, while norms determine what is acceptable or not.

## 25. What We Want

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.

## 26. Humanities

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.

## 27. Deaf Children

Deaf children learning a sign language could certainly pursue the development of listening and spoken language skills if desired, and doing so would carry much less risk knowing the child would have mastery in at least one language. If a child does not succeed in mastering either a spoken language or a sign language, we must then ask how much benefit the child derived from interventions in each language relative to the amount of time and resources dedicated to those interventions.

## 28. Bioperturbation

Bioperturbation, the disturbance of soils by animals, is an important and often essential functional component of many ecosystems worldwide. It determines the spatiotemporal characteristics of soil patches and thereby contributes to the ecosystems' diversity and heterogeneity.

## 29. Closure Activities

Closure activities allow participants to consolidate learning, say goodbye to group mates, and attend to any unfinished business prior to the ending of the group experience. Generally, these activities involve some reflection upon what has been learned or accomplished during the preceding time together and a sharing of those thoughts or insights with other participants.

## 30. Fin Whale Songs

Fin whale songs contain signals that are reflected and refracted within the crust, including the sediment and the solid rock layers beneath. These signals, recorded on seismometers on the ocean bottom, can be used to determine the thickness of the layers as well as other information relevant to seismic research.

## 31. Placebo

If a doctor expects a treatment to be successful, a patient may experience less pain and have better outcomes, according to a new study. The findings reveal how social interactions between hypothetical healthcare providers and patients have the power to influence how patients perceive the effectiveness of a treatment, even when it is a placebo.

## 32. Student Exchange Program

A student exchange program complements formal education, while promoting tolerance, maturity and independence – all highly sought after qualities in today's competitive job market. Living in the host country, not as a tourist or guest but as a member of the community, is what makes the experience both challenging and rewarding.

## 33. Inevitable Change

Change is inevitable in any sphere of life. Although the results of change can bring great benefits, the process of change can be intensely traumatic, involve loss of choice, power and status, and when change happens in the workplace, it can even lead to loss of jobs. Many businesses and organizations use a model called the Change Curve to understand and manage how people react to change.

## 34. Lemurs

A research team has systematically investigated the cognitive abilities of lemurs, which have relatively small brains compared to other primates. Conducting systematic tests with identical methods revealed that cognitive abilities of lemurs hardly differ from those of monkeys and great apes. Instead, this study revealed that the relationship between brain size and cognitive abilities cannot be generalized and it provides new insights into the evolution of primates.

### 35. Internet Interruptions

Internet interruptions caused by extreme weather events sap billions of dollars annually from the global economy and can interfere with the delivery of essential data and services by governments, utilities, and first responders. A Boston-based startup is trying to address that problem by applying climate resilience and adaption principles to the internet, which experts say is vulnerable to climate change.

### 36. Cycads

Like their lumbering grazers, most cycads have gone extinct. Their disappearance from their prior habitats began during the late Mesozoic and continued into the early Cenozoic Era, punctuated by the cataclysmic asteroid impact and volcanic activity that mark the K-Pg boundary 66 million years ago. However, unlike the dinosaurs, somehow a few groups of cycads survived to the present.

### 37. Interludes

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.

### 38. Conscientiousness

Conscientiousness is a fundamental personality trait. A conscientious person is good at self-regulation and impulse control. This trait influences whether you will set and keep long-range goals, deliberate over choices, behave cautiously or impulsively, and take obligations to others seriously.

### 39. Tidal Energy

Tidal energy, also known as tidal power, is a renewable source of energy and a form of hydropower used to generate electricity from the energy of the tides. Though not currently widely utilized, due to high costs and limited availability, it can be called the energy resource of the future given the current rate of depletion of energy resources.

### 40. Orchestras

The advantage of the great European and American orchestras is that they were able to establish their iconic status in an age when their identity could become entrenched, there was less competition and it was easier to create a brand. Not only did they have the best halls, they attracted the best musicians, who tended to stay put.

### 41. New Mineral

A diamond that formed deep in the earth's mantle contains a mineral never seen before in nature. The discovery is a rare glimpse into the deep mantle and may help reveal new information about the structure of the planet at depths of more than 660 kilometers. This can help geologists better understand how the mantle controls the earth's plate tectonics.



#### 42. Thomas Edison

Thomas Edison used his access to the railroad to conduct chemical experiments in a small laboratory he set up in a train. During one of his experiments, a chemical fire started and the train caught fire. The conductor rushed in and struck Edison on the side of the head, probably furthering some of his hearing loss.

#### 43. Procrastination

To overcome procrastination, you need to have an understanding of the reasons why you procrastinate and the function procrastination serves in your life. You can't come up with an effective solution if you don't really understand the root of the problem. As with most problems, awareness and self-knowledge are the keys to figuring out how to stop procrastinating.

#### 44. Africa Disease Centre

Africa Centres for Disease Control and Prevention is a specialized technical institution of the African Union established to support public health initiatives of Member States and strengthen the capacity of their public health institutions to detect, prevent and respond quickly and effectively to disease threats. It supports African Union Member States in providing coordinated and integrated solutions to the inadequacies in their public health infrastructure.

#### 45. Family Size

The world's poorest countries tend to have the largest family sizes and fertility rates. When people have no economic security and cannot rely on their government, they often have children to ensure they will be looked after when they are older. Where child mortality is high, there is an even greater impetus to have more children.

#### 46. Shakespeare

A young man from a small provincial town— a man without independent wealth, without powerful family connections and without a university education— moved to London in the late 1580's and, in a remarkably short time, became the greatest play wright not of his age alone but of all time. How was this achievement of magnitude made? How did Shakespeare become Shakespeare?

#### 47. Loggerhead Turtle

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.

#### 48. Coriolis Effect

Prevailing winds are winds that blow from a single direction over a specific area of the Earth. Areas where prevailing winds meet are called convergence zones. Generally, prevailing winds blow east-west rather than north-south. This happens because Earth's rotation generates what is known as

the Coriolis effect. The Coriolis effect makes wind systems twist counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

#### 49. Patriarch

A patriarchal family is one run by the father or eldest male of a household. He usually decides the duties of the women and children in the family. In this role, the patriarch solves family disputes and divides the family's wealth. The patriarch is also the spiritual leader of the family because he is thought to be the closest to the spirits of the family's ancestors.

#### 50. Samuel Shian

Study author Samuel Shian, a materials scientist, says this smart glass is cheaper than others, and uses minimal power much less, for example, than something like a curling iron. And since it's flexible and foldable, he says it could even be used for things like camouflage uniforms, to switch, for example, from green and brown to white and gray.

#### 51. Two-pronged Policy

After a pandemic with major social and economic consequences, emerging and developing countries need to swiftly address a two-pronged policy objective: sovereign debt sustainability and being able to fund investment, especially investment with high economic and social returns. So far, the international community has alleviated the liquidity strain among developing countries and quickened the mobilization of financial resources.

#### 52. Era of Mayan

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 period of drought led to famine. Recent geological research supports this, as there appears to have been a 200-year drought around this time.

#### 53. Japan

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.

#### 54. Hunter-gatherer

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.

#### 55. Australian Mining Industry

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.

## 56. Scottish Literature

Despite many similarities with literary-political debates in other nations, there are also ways in which the cultural and political situation in Scotland has left the study of Scottish Literature in a significantly different condition from that of literary studies in many other parts of the world.

## 57. Committee Gratitude

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.

## 58. Eco-anxiety

Eco-anxiety refers to a fear of environmental damage or ecological disaster. This sense of anxiety is largely based on the current and predicted future state of the environment and human-induced climate change. Anxiety around environmental issues may stem from the awareness of a rising risk of extreme weather events, losses of livelihood or housing, fears for future generations, and feelings of helplessness.

## 59. Golden Goose

Successful economies and cultures are built on trust, but a number of high-profile data breaches and privacy intrusions have caused anxiety for consumers. New legislation may be needed to bolster confidence in the digital marketplace, but we've got to be thoughtful about it. So we don't strangle the golden goose that we call the Internet.

## 60. Yoga

But like other low-impact exercises, yoga reliably improves fitness and flexibility in healthy populations. The practice has also been shown to be a potentially powerful therapeutic tool. In studies involving patients with a variety of skeletal disorders, yoga was more helpful at reducing pain and improving mobility than other forms of low-impact exercise.

## 61. Yellowstone Species

In addition to its unique geography and geology, Yellowstone is also home to many different species of plants and animals. For example, there are more than one thousand species of trees and plants native to the Yellowstone area. It is also home to many different species of fauna, many of which are considered megafaunas such as grizzly bears and bison.

## 62. Shock Absorption

Spacecraft and launch pad equipment undergo extreme stress due to vibration during rocket launches. To make sure that they remain functional in space, shock absorption technology was designed to protect the spacecraft. During earthquakes, buildings and bridges undergo similar stress. That is why the same shock absorption technology used for spacecraft is now used to strengthen buildings and bridges in earthquake-prone regions.

### 63. Hunter's Full Moon

The Hunter's full moon is the first full moon after the autumnal equinox, which marks the arrival of the colder months in the Northern Hemisphere. At higher latitudes in the Northern Hemisphere, the moon therefore appeared larger than the full moons of the summer months, as it lingered relatively low above the horizon.

### 67. Actor Training

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.

### 68. Choking

You ought to know what to do to help a person who is choking. First, you stand behind the choking victim and put your arms around his or her waist. Second, you make a fist and place the thumb side against the person's stomach just above the navel, but below the ribs.

### 69. Hybrid Rice

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.

### 70. Academic Success

Academic success requires a combination of hard work, dedication, and effective study habits, such as time management, active reading, and critical thinking. Students who excel academically are those who are able to balance their coursework with other responsibilities, prioritize their assignments according to deadlines and importance, and engage with the material in a meaningful way that promotes deep learning.

### 71. Arctic Region

The Arctic region is one of the most fragile ecosystems on Earth, with melting ice caps and rising temperatures threatening many species that call this region home. Protecting this vital ecosystem will require international cooperation on issues like reducing greenhouse gas emissions and preserving biodiversity.

### 72. Ultrafast World

Glimpses of the ultrafast world of electrons are changing scientists' vision of the inner workings of atoms and molecules. The 2023 Nobel Prize in physics goes to three physicists who illuminated this realm with ultrashort pulses of light, the Royal Swedish Academy of Sciences announced October 3.

### 73. Child Psychology

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.

#### 74. Soccer

The sound of cleats pounding against the turf and the roar of the crowd as the ball hits the back of the net. The beauty of soccer is in the passion and intensity that it ignites in its players and spectators alike. With its fluid movements and strategic gameplay, it is a sport that envelops you in its exciting energy.

#### 75. Only Family

Imagine living all your life as the only family on your street. Then, one morning, you open the front door and discover houses all around you. You see neighbours tending their gardens and children walking to school. Where did all the people come from? What if the answer turned out to be that they had always been there— you just hadn't seen them?

#### 76. Rates of Depression

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.

#### 77. Coffee

Coffee is more than just a beverage – it's a way of life. From the bold aroma to the rich taste, coffee provides a daily boost of energy and happiness. It's true that some people are sensitive to caffeine, but coffee can still be enjoyed in moderation. And with so many different brewing methods and flavors to choose from, there's a perfect cup of coffee out there for everyone.

#### 78. Enough Fluid

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.

#### 79. Restaurant Location

The physical location of a restaurant in the competitive landscape of the city has long been known as a major factor in its likely success or failure. Once restaurants are established in such environments, they can do little about their location. All they can do is work to improve customer access to their premises.

#### 80. William Shakespeare

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 screen writers as well. Why is that, and who "is" he?

### 81. Dangerous Superbugs

Antibiotics either directly kill bacteria or slow their growth, leaving the immune system to finish the job. The drugs work in several ways — by preventing bacteria from building sturdy walls or making copies of their DNA, for instance. Growth-slowing antibiotics usually disrupt ribosomes, the factories in which bacterial cells make proteins.

### 82. Political Problems

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.

### 83. Cats are Perfect

Cats have nailed this one thing so well that they all do it and just come up with slightly different sizes. That's why they're perfect, evolutionarily. They don't need variation. They might get bigger or smaller, but they don't change anything else because they're doing it just right otherwise. They're not jacks-of-all-trades; they're masters of one.

### 84. High-protein Diet

A 10-week muscle-building and dietary program involving 50 middle-aged adults found no evidence that eating a high-protein diet increased strength or muscle mass more than consuming a moderate amount of protein while training. The intervention involved a standard strength-training protocol with sessions three times per week. None of the participants had previous weightlifting experience.

### 85. Extreme Heat

Extreme heat is a major public health threat, especially when it is unseasonable and where people are less acclimated to higher temperatures. Among the most vulnerable populations are the very young, the elderly, those with existing health conditions such as heart disease and those without access to air-conditioning. People who work outdoors are also particularly susceptible to heat illness and heat stroke.

### 86. Adult Coral

Recent research suggests that adult fragments of a coral species exhibit improved tolerance to bleaching and a faster recovery when exposed to symbionts that have evolved to withstand higher temperatures. Interestingly, the study also found that the treatment with these heat-evolved symbionts did not negatively impact the coral's growth.

### 87. Positive Parenting

Positive parenting practices have been linked to improved child outcomes in a range of areas, including academic achievement, mental health, and social skills. Positive parenting involves establishing clear rules and boundaries, providing emotional support and encouragement, and fostering open communication with children.

#### 88. Disaster Preparedness Program

A comprehensive disaster preparedness program is being launched to enhance community resilience and response capabilities. The program includes initiatives to educate communities about potential hazards, develop emergency response plans, and improve communication systems for timely warnings and alerts during emergencies. The initiative also focuses on developing disaster-resistant infrastructure and promoting sustainable land use practices to reduce the impact of disasters on communities.

#### 89. Aurora

Many ancient people associated the auroras with fire, which is understandable: the sky can glow with ripples of yellow and red, as if it is itself aflame or perhaps instead reflecting some distant over-the-horizon conflagration on the ground. But the lights come in many other colors, too: green is the most common, and purple and pink can make appearances, too. Sometimes auroras can even glow an electric blue.

#### 90. Monkeypox

Countries that are members of the United Nations are obligated to report cases of unusual diseases that have the potential to become global health threats. In May 2022, more than a dozen countries in Europe, the Americas and other regions of the world that had never before had cases of monkey pox started to report cases occurring within their borders.

#### 91. Ancient Footprint

Fossilized human footprints found in New Mexico's White Sands National Park were almost certainly made more than 20,000 years ago, during the height of the last ice age, according to new research. The study, published on Thursday in *Science*, overthrows decades of thinking about when humans arrived in North America.

#### 92. Sushi

The origins of sushi can be traced back to ancient China, where the preservation of fish was a necessity. During the second century A.D., the Chinese began fermenting fish by wrapping it in rice and allowing it to ferment overtime. The rice was discarded, and the fish was consumed. Sushi made its way to Japan in the 8<sup>th</sup> century, introduced by Buddhist monks who used fermentation techniques to preserve fish.

#### 93. Moderate Drinking

Now a growing body of research says any alcohol raises the chance of premature death from a variety of causes. About half of cases of liver disease are attributed to drinking. Alcohol is also a potent carcinogen. It can cause cancer because it breaks down in the body to form a compound called acetaldehyde, which damages DNA. That damage can lead to at least seven types of cancer.

#### 94. Hurricane Harvey

The human toll of Hurricane Harvey is staggering, with 68 direct deaths and 35 indirect deaths attributed to the storm. The loss of life is a sobering reminder of the destructive power of such natural disasters. But beyond the lives lost, the impact on those who survived the storm cannot be overstated.

#### 95. Live in Space

Humans evolved for and adapted to conditions on Earth. Move us off our planet, and we start to fail—physically and psychologically. The cancer risk from cosmic rays and the problems that human bodies experience in microgravity could be deal-breakers on their own. Moreover, there may not be a viable economic case for sustaining a presence on another world.

#### 96. Spider Silk

Spider silk is prized for its unrivalled strength and toughness. But figuring out a way to mass-produce it is no easy feat. Spiders cannot be put to work to pump out the fibers the way silk worms can: They're extremely territorial and inclined to eat their neighbors, and they refuse to keep at the task for long.

#### 97. Spring Water

Spring water comes from a protected, underground water source from which the water flows to the surface on its own. It may be collected either at the surface spring or through a sanitary, protected hole drilled directly into the source feeding the spring. If the water is collected through a hole drilled into the source, it has to have exactly the same composition as the water in the surface spring.

#### 98. Clean Air Act

Over the next couple of decades, Americans became more and more concerned with the chemicals that were being released into the air and the effects they could have on people's health and the environment. Lawmakers came together from both sides of the aisle, ultimately drafting and unanimously passing the Clean Air Act of 1970.

#### 99. Decline or Empowerment

While opponents view beauty pageants as symbols of decline, others argue that they can be platforms for empowerment and self-expression. Supporters highlight the opportunities these contests provide for personal growth, public speaking, and community involvement. It is essential to foster a dialogue that explores the potential positive aspects of beauty pageants while addressing concerns about objectification.

#### 100. Echidna

A long-beaked echidna named after Sir David Attenborough and last seen by scientists in 1961 has been photographed for the first time in an Indonesian tropical forest. An international team of researchers worked with local communities to deploy over 80 camera traps to film the elusive animal. Besides rediscovering the echidna, the team uncovered a wealth of species completely new to science.



#### 101. Historic Preservation

Preserving historic buildings and landmarks is not only important for maintaining a community's identity but also for enhancing economic stability. Historic preservation attracts tourists who are interested in the unique character and history of a place. Visitors are more likely to spend time and money in areas with well-preserved historic buildings, contributing to the local economy.

#### 102. Fence

Fences are not just designed to keep people and animals out, but they also keep things in, like children. From a safety perspective, knowing your children are in a yard that is fenced offers solid peace of mind when it comes to their well-being. Fences are also great for keeping pets in a confined, controlled area.

#### 103. Carbon-capture Tree

Due to the growing urgency of the climate crisis, there has been a significant increase in the establishment of commercial tree plantations as a means to counterbalance excessive carbon emissions. However, experts argue that these carbonoffset plantations may have negative impacts on biodiversity and other vital functions of ecosystems.

#### 104. Line Engraving

Line engraving on metal, which, to a great extent, was a development of the goldsmith's craft of ornamenting armor and precious metals, did not emerge as a print-making technique until well into the 15th century. Copper, the metal mainly used for engraving, was expensive, and engraving itself was laborious and took a long time.

#### 105. Upconversion

Significant progress has been made towards achieving photochemical upconversion in a solid state, bringing us one step closer to realizing a breakthrough in various fields such as renewable energy, water purification, and advanced healthcare. This groundbreaking technique holds the potential to unlock vital innovations that can revolutionize the way we harness and utilize energy.

#### 106. Heat and Humidity

Scientists have identified the maximum mix of heat and humidity a human body can survive. Even a healthy young person will die after enduring six hours of 35-degree Celsius warmth when coupled with 100 percent humidity, but new research shows that threshold could be significantly lower.

#### 107. Melting Pot Theory

The melting pot theory of multiculturalism assumes that various immigrant groups will tend to "melt together," abandoning their individual cultures and eventually becoming fully assimilated into the predominant society. Typically used to describe the assimilation of immigrants, this theory is often illustrated by the metaphor of a foundry's smelting pots in which the elements iron and carbon are melted together to create a single, stronger metal—steel.

#### 108. Shakespeare's Writing Style

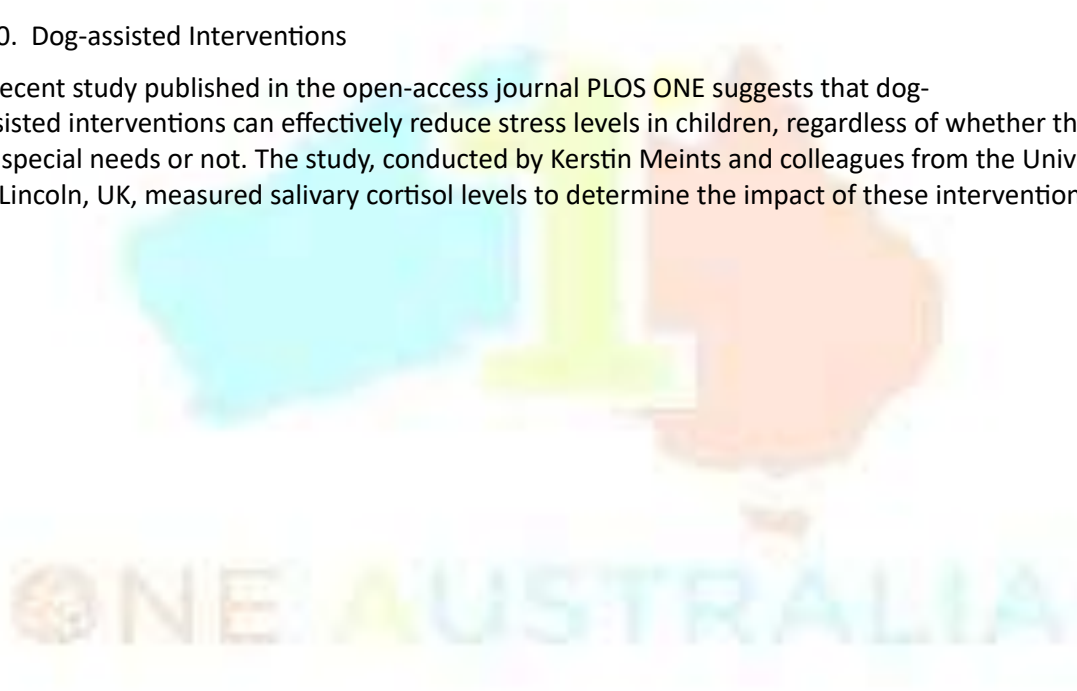
Shakespeare's writing style is characterized by the use of stylized language and rhetorical devices. He often employed extended metaphors and conceits in his poetry, creating rich and vivid imagery. Some of his notable themes include love, power, ambition, fate, and the human condition. His works explore the depths of human emotions and the complexities of human relationships.

#### 109. 'Rewire' Themselves

Contrary to the commonly-held view, the brain does not have the ability to rewire itself to compensate for the loss of sight, an amputation or stroke, for example, say scientists. The researchers argue that the notion that the brain, in response to injury or deficit, can reorganize itself and repurpose particular regions for new functions, is fundamentally flawed -- despite being commonly cited in scientific textbooks.

#### 110. Dog-assisted Interventions

A recent study published in the open-access journal PLOS ONE suggests that dog-assisted interventions can effectively reduce stress levels in children, regardless of whether they have special needs or not. The study, conducted by Kerstin Meints and colleagues from the University of Lincoln, UK, measured salivary cortisol levels to determine the impact of these interventions.



## REPEAT SENTENCES

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1. There is a pharmacy on campus near the store.
2. I need somebody to fix the problem with the computer screen.
3. The hotel is not far away from my apartment.
4. If you like cooking, we can make supper together.
5. If you need a part-time job, it should not interfere with your studies.
6. Your car can park in the building behind the medical center.
7. Would you pass me the textbook on that table?
8. If you want to sell your book, it must have a bibliography.
9. They have enough work to keep them going.
10. Students are not allowed to speak when they are in the examination hall.
11. This program is running in partnership with a number of departments.
12. You can obtain the application form from the administrative office.
13. To meet the requirement, multiple copies need to be given to the department.
14. Living close to your workplace significantly reduces daily commuting time.
15. For this project, collaboration in trios will be a necessary requirement.
16. At any given time, the laboratory allows a maximum of four individuals inside.
17. Meteorology involves a comprehensive analysis of the Earth's atmospheric conditions.
18. Even without someone to converse with, Mary doesn't experience loneliness.
19. Bigger corporations frequently assimilate smaller privately held businesses in the market.
20. John rushed swiftly down the corridor without any hesitation or delay.
21. It can be a challenge to precisely define this specific word.
22. Firms are obligated to provide details about their industrial processes.
23. Before reaching final conclusions, it's imperative to verify underlying assumptions.
24. In the analysis of statistical data, considering gender is fundamentally important.
25. At present, I brim with a newfound sense of confidence and optimism.
26. European political dynamics encounter similar challenges in the context of globalization.
27. Capitalize the name of each month when writing in English.
28. I am acutely aware of my personal shortcomings and limitations, you know.
29. Regrettably, Professor Jones possessed limited tolerance for foolish behavior in class.



30. Let's meet this weekend to talk about our assignment together.
31. Truly, I believe it's among the best actions I've ever taken.
32. I missed the lecture yesterday; may I use your notes?
33. Our existence is dependent on the energy we utilize daily.
34. This is just one instance; there are numerous more examples.
35. Extra seminars are scheduled to assist in your study preparation efforts.
36. Now, universities compete for excellence in environmental conservation and sustainability efforts.
37. Electric vehicles signify the future of transportation, promising an eco-friendlier world.
38. Simply answering this complex question with yes or no won't work.
39. Is the professor available at the office on a regular schedule?
40. Are energy production activities primarily held responsible for environmental problems, experts wonder?
41. These days, more people are choosing to study from afar.
42. Once the main plan is set, we can figure out costs.
43. Australia's economy relies a lot on money from visitors and education institutions.
44. Personally, I opt for a strategic approach by choosing judicial review.
45. Apple intends to reveal numerous new products this coming autumn season.
46. This matter is significant in this and other respects too.
47. Our assignments are all founded upon classroom discussions as their basis.
48. Next week, the focus transitions from colonialism to nuclear disarmament discussion.
49. Fear of essay writing stems from not learning it properly.
50. Persist through life's obstacles; don't give up when challenges emerge.
51. To avoid evening traffic, we should leave before it gets busy.
52. The program operates solely on financial contributions from private benefactors.
53. A smart doctor invented the game of basketball many years ago.
54. Active people often live longer and don't get seriously ill.
55. Trade finance helps businesses a lot by managing money for their operations.
56. Making workplace changes can often bring significant challenges to the forefront.
57. Email usage raises the risk of miscommunication significantly in correspondence.
58. Friends help with feelings, but how much depends on each person.



59. Being tired often leads to car accidents on the road.
60. Art classes can help you be creative and express yourself.
61. Streetlights ensure nighttime safety for walking outdoors without any worries.
62. The university does things to help the environment, like planting trees.
63. Too much irrelevant information made me feel overwhelmed and confused.
64. The verdict depends on which side convinces the jury more.
65. Effective management is key to establishing and maintaining intellectual leadership.
66. Thank you for representing our department at this event; we appreciate it.
67. The test includes subjects from each chapter in this semester's material.
68. Research shows that early detection methods are very important and significant.
69. Early findings are interesting but not very important in our study.
70. We don't have enough evidence to be absolutely sure of anything.
71. We offer a variety of courses catering to our students' diverse needs.
72. His research fascinates due to his natural curiosity and inquisitiveness.
73. This academic year, students need to complete several short coursework assignments.
74. Many people faced crowded and dirty living conditions in their daily lives.
75. Please turn in your essays on white paper with double-spacing throughout.
76. Doctor Green's new office location is on the building's second floor.
77. Write a case study detailing an organization you're familiar with, please.
78. This short summary will take us to a time long ago.
79. London evolved into a powerful, prosperous city over several centuries.
80. To resign from the student union, formally notify the registrar's office.
81. The college wants to hire a new teacher for media studies.
82. It's weird that the school has only one class about studying people and societies.
83. People don't study crimes by companies as much as other crimes.
84. The sea rose, changing the land and moving the coastline in.
85. Sailors in the Mediterranean often spot the fiery night glow from volcanoes.
86. Most visitors are drawn to Mt. Field when they visit the National Park.
87. Extracting pollutants from environments proves to be a difficult task.
88. I anticipate being tardy for the upcoming class that I have.
89. More patients were infected in this outbreak than in any prior ones.



90. We've confirmed the dates and have organized some additional optional activities.
91. We prefer destinations with guided tours for a more structured visit experience.
92. Despite my friends' desire to study abroad, I prefer home.
93. Parents frequently use toys and incentives to shape their children's behaviours and choices.
94. Last year, she organized a successful art exhibition that garnered significant attention and attendance.
95. In general, consumers tend to have low trust in advertisements.
96. Proper disposal of waste is of the utmost importance for human well-being.
97. The artist has gained fame for creating abstract art throughout his career.
98. Let's meet at a later time instead of the earlier one, as previously agreed.
99. Disgust often relates to the stomach and digestive reactions in our bodies.
100. Our future well-being hinges on the actions we take in the present.
101. Generally, consumers don't trust advertisements.
102. There is plenty of cheap accommodation off-campus.
103. There is considerably less supervision at university.
104. Even scientists do not comprehend these phenomena.
105. During the next few centuries, London became one of the most powerful and prosperous cities in Europe.
106. If she doesn't speak the language, she's not going to sit around and wait for a translator.
107. We are also going to be more prescriptive about what you focus on in your presentation.
108. In this library, the reserve collection of books can be borrowed for up to three hours.
109. The modern approach to the problem is to stress the symbolic side of human nature.
110. Due to the rising demand for courses, the university should also increase their academic staff.
111. The family has sold most of its shares and will lose control of the company.
112. Glass is not a true solid because it does not have a crystal structure.
113. The gap between the rich and the poor did not decrease rapidly as expected.
114. The generic biology technology lab is located at the North Wing of the library.
115. The university is willing to join the joint research efforts of the local council.
116. With the development of technology, automation brings a lot of benefits to the US.
117. Aboriginal people have a long tradition of teaching and learning in their own method.

118. The ability to get straight to the core of a problem is very important.
119. She has been collecting material for her latest novel for more than a month.
120. I will check the map to make sure we are going the right way.
121. To begin, let me quickly outline the rich history of our museum for you.
122. The competency of language in the assignment is to use more formal words.
123. I think we should get together over the weekend to discuss this assignment.
124. One of the hardest things about starting university is finding your way around.
125. We are constantly looking for ways to bring industry and agriculture closer together.
126. The context is basically the background of framework surrounding the act of communication.
127. Those who do not learn from history are more likely to repeat it.
128. It has been shown that the number of male nurses has increased substantially.
129. The Health Department is working on the prevention of this new infectious disease.
130. We carefully compared the first report with the second looking for any difference.
131. The company has to deal with huge losses resulting from its latest investment.
132. We offer plenty of sports programs for students to develop a healthy lifestyle.
133. Animal science can be applied to a wide variety of careers and industries.
134. Our university has organized a visit to the tallest building in the world.
135. You still have heaps of time to complete this task before its deadline.
136. Volunteer work can be a rewarding way to give back to the community.
137. Starting a business or selling things abroad begins by talking to a bank.
138. Even during leisure time, you can hear attempts to persuade or influence.
139. In the Middle Ages, a disease caused the world population to fall.
140. The English word 'typhoon' comes from the Chinese word meaning 'big wind.'
141. It is important to validate all assumptions before arriving at a conclusion.
142. Research has found that there is no correlation between diet and intelligence.
143. This science fiction novel uses advanced space technologies to create the setting.
144. The book is informative but it could be accused of political bias.
145. Biographical information should be removed prior to the publication of the results.
146. They have no way to dispose of the hazardous waste they produce.
147. Friendship is a source of pleasure and a component of good health.
148. My profession had an important influence on the formation of my character.



149. The government must deal with this issue as a matter of urgency.
150. There has been a growing need for qualified teachers of English literature.
151. We've been doing research in that area for probably twenty-five years.
152. Some of these churches date from even earlier than the last century.
153. We have already succeeded in working out ground rules with the department.
154. They appointed a new manager to coordinate the work of the team.
155. Marketing is applied to everything these days, and books are no exception.
156. Too much dependence on the teachers may lead to lack of motivation.
157. The teacher asked the students to check their work for any errors.
158. The university can help connect you to local cultural groups and organizations.
159. The campus art museum features work from renowned artists around the world.
160. He has a strong interest in exploring new and exciting art movements.
161. Conforming to the wrong group can lead to dangerous and harmful outcomes.
162. In front of us is the car park, as you can see, and to the left, by the entry gate, is the Gift Shop.
163. Long before children are able to speak or understand a language, they communicate through facial expressions and by making noises.
164. The greater the population there is in a locality, the greater the need there is for water and transportation.
165. At the end of the ice age there would have been enormous changes in animal and plant life.
166. The technology they introduced meant that metal and leather goods were produced there for the first time.
167. The government is expected to lay an additional tax on cars by the end of the year.
168. Most research is beneficial but some can be unethical or even dangerous.
169. Another example is an electric bus with an open bottom that allows cars to drive underneath.
170. During times of change they should be thinking not only about the strain on their staff.
171. Rising consumer sales in the first half of the year spurred the economy to faster growth.
172. Economy of scale is the increase in efficiency that occurs when more goods are produced.
173. Overcrowding and poor sanitary conditions affected the daily lives of the majority of the population.



174. One of the salient features of academic writing is the tendency to use formal words.
175. When we are stressed, our skin releases a natural chemical, a hormone, that repels mosquitoes.
176. We digitise significant parts of library collections to make them easier to find and access.
177. People form into teams to achieve goals which are beyond the reach of an individual.
178. He was suffering from exposure and shock but his condition was said to be stable.
179. I intend to take full advantage of this trip to buy the things we need.
180. A good education not only teaches you skills but also helps you broaden your horizons.
181. Students do better when they interact with others with completely different perspectives on things.
182. Often, the point of the advertisements is to raise awareness rather than give information.
183. It is argued that students can learn more by collaborating rather than as individuals.
184. The future of English is in the hands of countries where non-native speakers live.
185. There's been far more research on conventional crime and far more data is available.
186. Answering such a complex question with a simple yes or no is absolutely impossible.
187. I would like an egg and tomatoes on white sandwich bread with orange juice.
188. We've decided to ask you to write four short pieces of coursework this year.
189. His objection to including scientific evidence has brought a lot of criticisms to him.
190. It is clear that there is little accurate documentation in support of this claim.
191. The books are filled with drawings of machines invented when he was a student.
192. Gravity is extraordinarily weak and nearly impossible to study directly at a quantum level.
193. During an official ceremony, a memorandum of understanding was signed by the academic dean.
194. The characteristics of the newly discovered insects match the ones we have on record.
195. A man who suffered serious brain damage during an operation is suing the hospital.
196. The two countries have become close trading partners in the field of crude oil.
197. A campaign has begun to try to save a species of birds from extinction.
198. The decisions we take now may influence the course of events in the future.
199. He is firmly convinced that it is important to finish his homework in time.
200. Guided by their teacher, the students choose their own authentic materials to work with.
201. The trial experiment aims to increase interest in the issue and the jurisdiction clause.

202. The discussion covers business principles and practices in the context of everyday business events.
203. Children of compulsory school age must be enrolled in school and attend every day.
204. This textbook teaches data science and machine learning methods for control of complex systems.
205. He seemed to take it for granted that he should speak as a representative.
206. High-earning parents are more likely to live in a good neighbourhood for raising children.
207. Researchers have observed that family plays a crucial role in the success of individuals.
208. Each library assistant was given a specific section of the library to distribute books.
209. Getting career advice while you're at university eases the transition from study to work.
210. Market research surveys might be conducted by telephone, the internet, or in person.
211. During some stages of sleep, your eyes move rapidly behind your closed eyelids.
212. The amount of sleep that adults need doesn't change as they get older.
213. Scientific developments often cause lots of problems so sometimes they're not worth it.
214. Before electric lighting adults generally slept about nine or ten hours per night.
215. Higher numbers of patients were infected than in previous outbreaks of the illness.
216. Enrollment in classes is supposed to be completed via the university records system.
217. Very little of the work in today's knowledge firms is repetitive or mechanical.
218. Please keep the keys with you because the front door often locks automatically.
219. Studies suggest there may be a correlation between educational achievement and family size.
220. I thought the mid-term exam was only worth half of our course grade.
221. This small Indian state is a land of forests, valleys and snowy islands.
222. The cafeteria closes soon but the snack machine is accessible throughout the night.
223. There is absolutely no archaeological evidence to prove that Alexander the Great existed.
224. Expertise in particular areas distinguishes you from other graduates in a job interview.
225. Care needs to be taken for vulnerable groups during the periods of turmoil.
226. Our capacity to respond to national needs will determine our ability to flourish.
227. Robert Frost thinks the rural area is livable for people in New England.
228. If they find you suitable, they will happily apply for your visa sponsorship.
229. By borrowing from the library, you agree to comply with the borrowing rules.
230. You can find a degree to match your interests, passions and career goals.

231. It was decided by a unanimous vote that this school should be closed.
232. Trainees are taught to pay attention to details and to strive for perfection.
233. There has been an acute shortage of water since the river was polluted.
234. Ecologists have recently learned more about diseases that have killed millions of frogs.
235. Data processing is the series of operations that are carried out on data.
236. Historians use a wide range of primary and secondary sources for their research.
237. Now it is well-known that the Earth's path around the sun is elliptical.
238. The monarchy in England has played an important role in modern British culture.
239. A snake suddenly twisted around his arm when he passed across the forest.
240. Pictures are scanned into a form of digital information that computers can recognize.
241. State agencies continue to cut budgets and support to a number of organizations.
242. Our mentors will build and contribute to a friendly relationship with new students.
243. The field of internet security is growing and evolving at a rapid pace.
244. Your aim is to recognize the impact of gender in all academic disciplines.
245. Transport has always been the key to developing international trade in this century.
246. They're discussing the most efficient strategy to manage the risks facing the business.
247. Levels of pollution present in the atmosphere are increasing, which is rather concerning.
248. Statistics indicate that depressed patients are more likely to become ill than others.
249. The staff should make sure the kids have an enjoyable and educational day.
250. An important factor that separates ordinary photographs from good ones is the lighting.
251. Governments can help reverse this economic trend by offering technical and financial aid.
252. The job encompasses a wide range of responsibilities, so it is very challenging.
253. Mental health is important at every stage of life, from childhood through adulthood.
254. The teacher tried to gain her student's attention by clapping her hands loudly.
255. We are constantly seeking competitive advantages that allow us to make more profits.
256. The healthcare industry is facing numerous challenges, including rising costs and access issues.
257. Ads often use funny stories, exciting scenes, or catchy words to get noticed.
258. This short line in the artwork symbolizes the essence and vitality of life.
259. We often ask our students to get access to all sorts of services.
260. He would yearn for the chance to learn from the well-known artist.

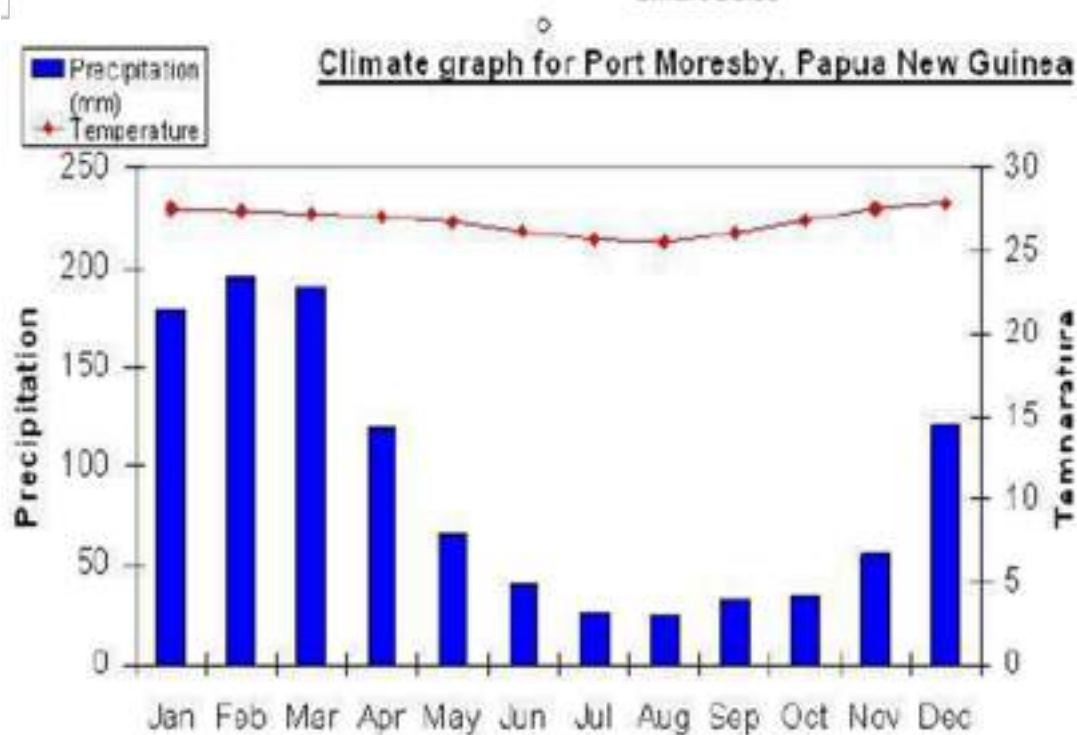
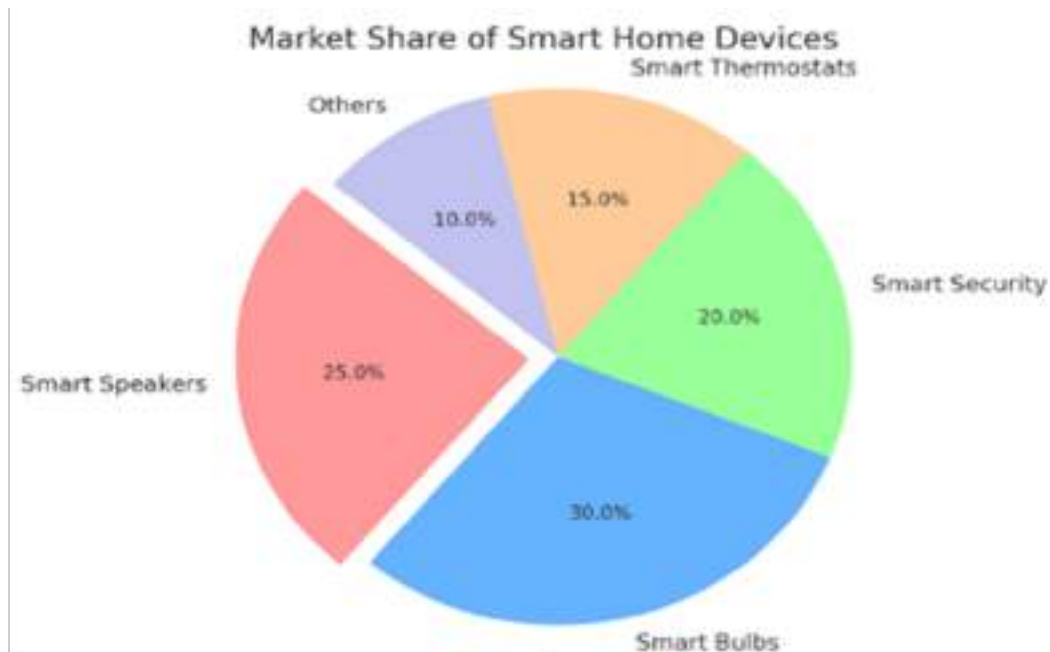


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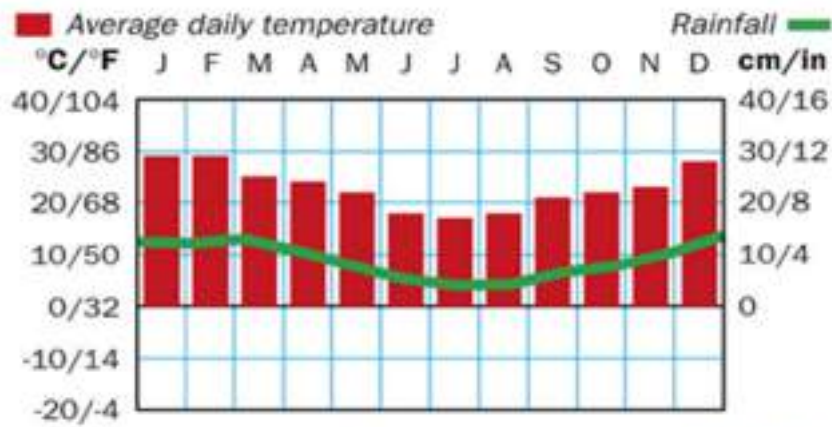
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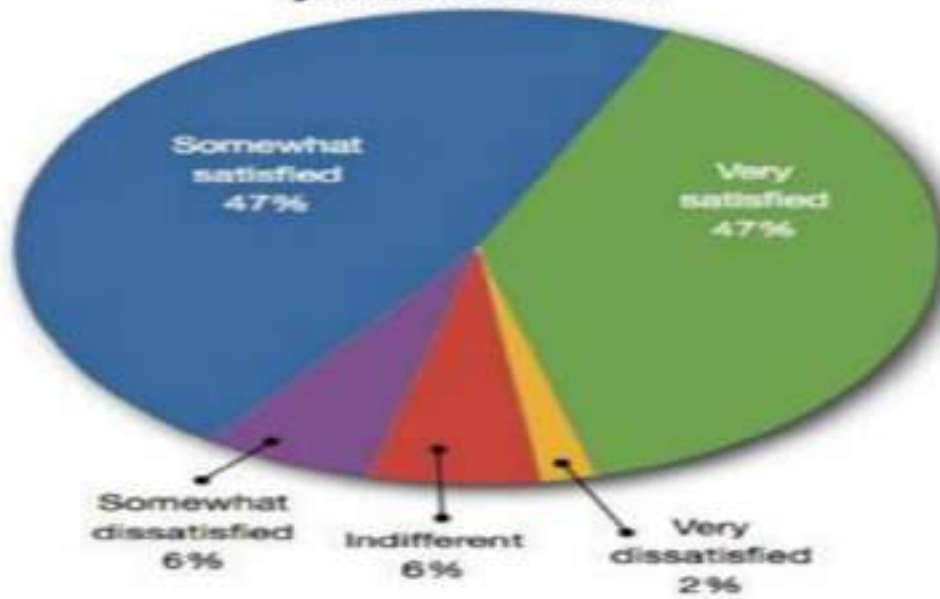




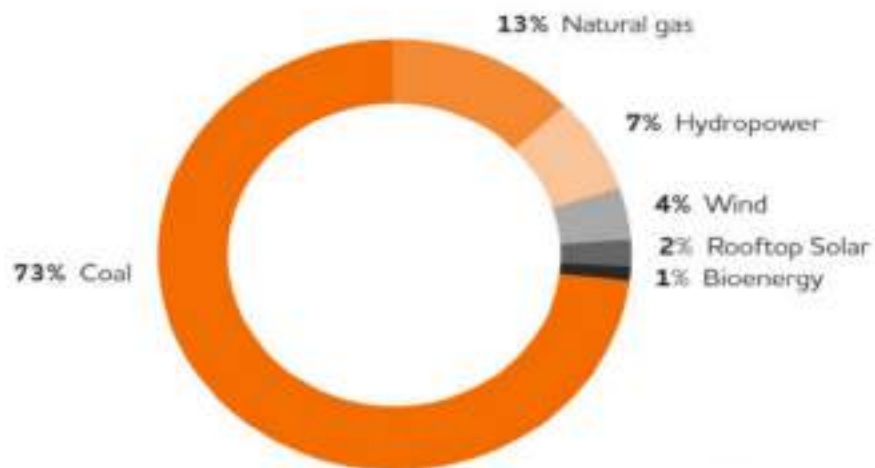
## Brazil: climate



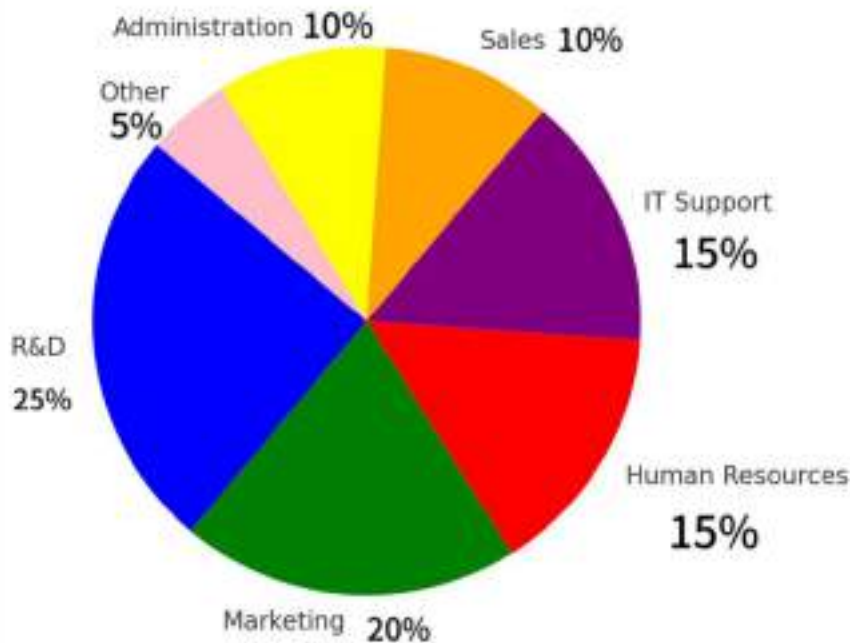
**What is your overall  
job satisfaction?**



**ELECTRICITY GENERATION ACROSS AUSTRALIA**

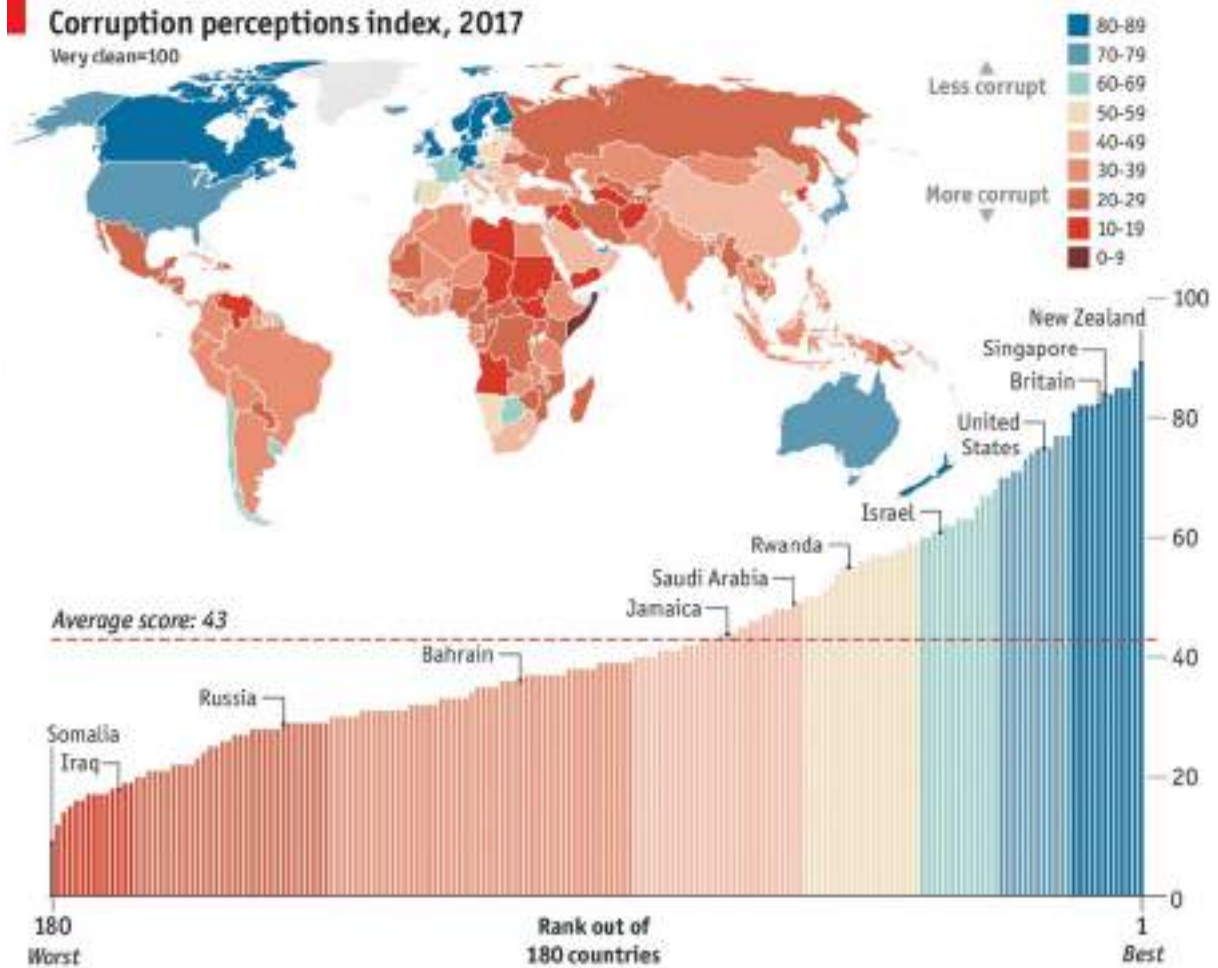


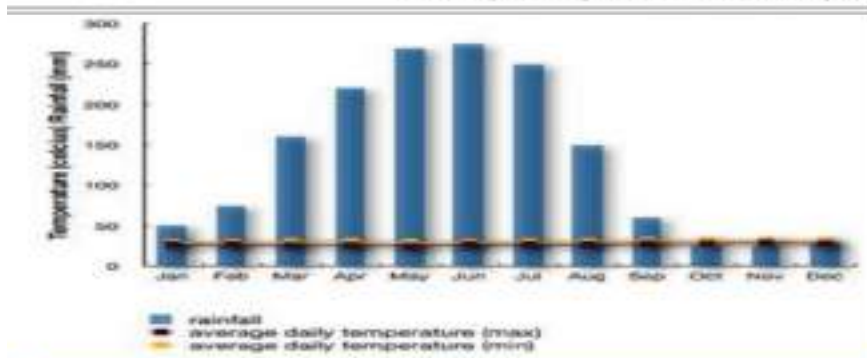
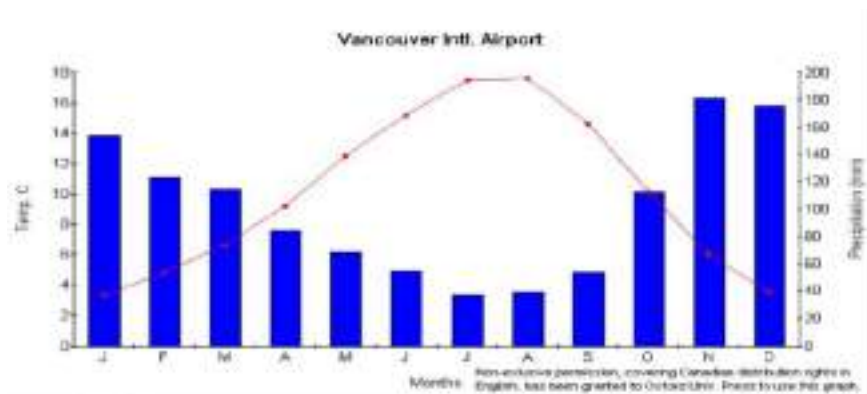
### Corporate Budget Distribution



### Corruption perceptions index, 2017

Very clean=100







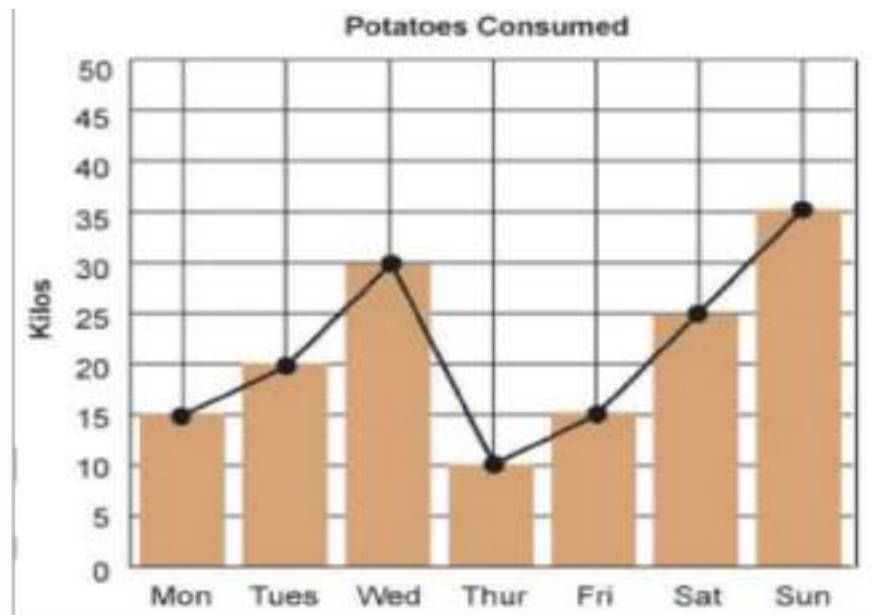
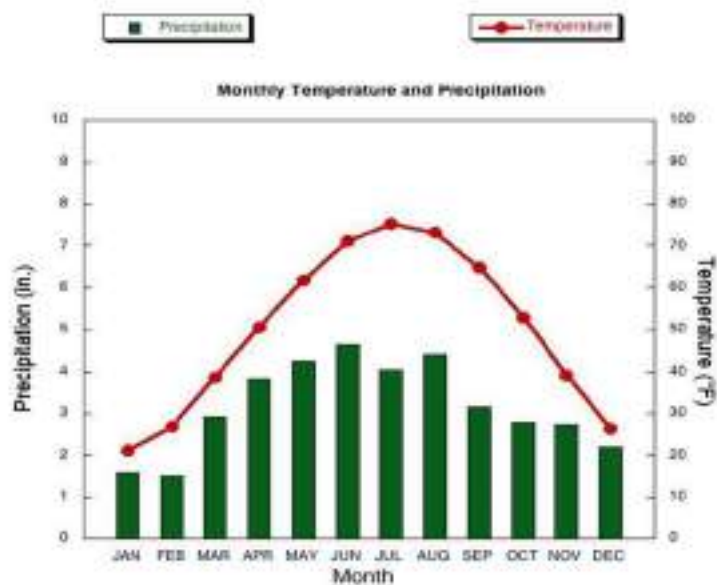
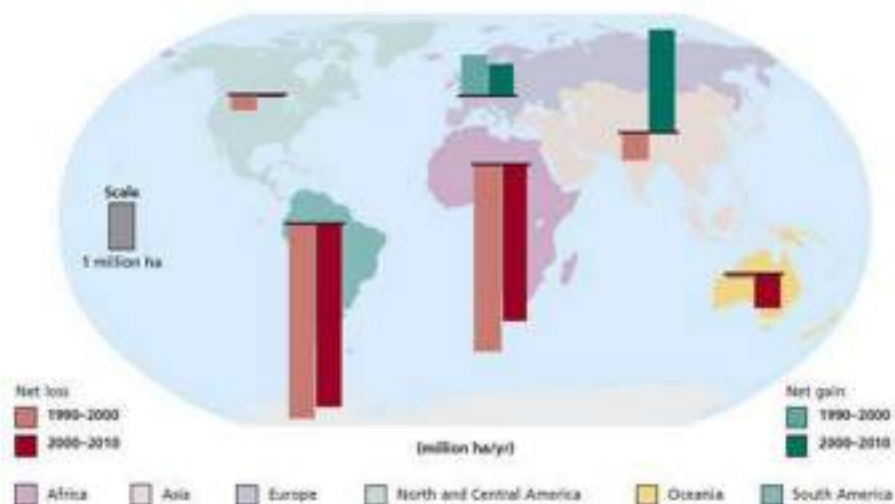
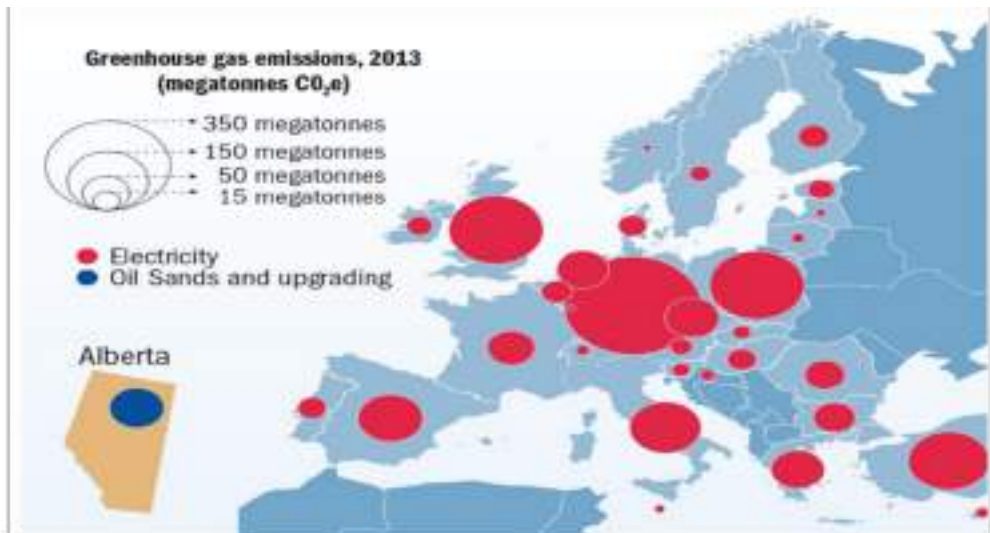


FIGURE 4  
Annual change in forest area by region, 1990-2010



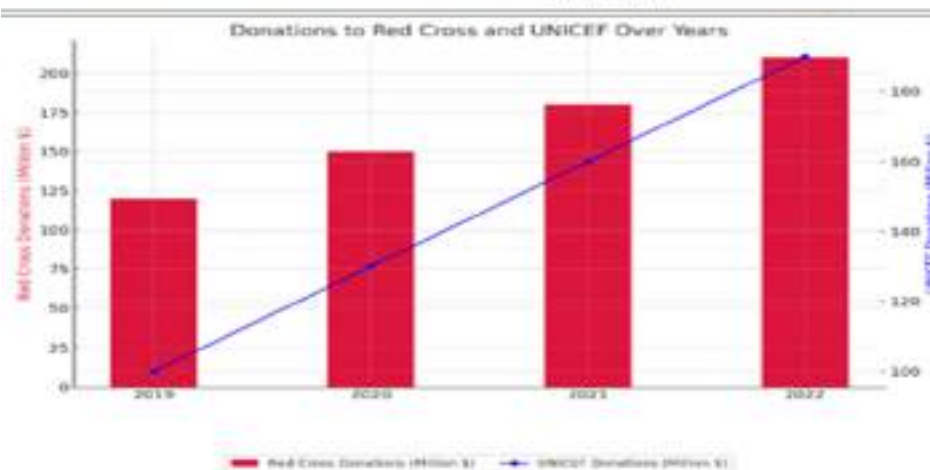
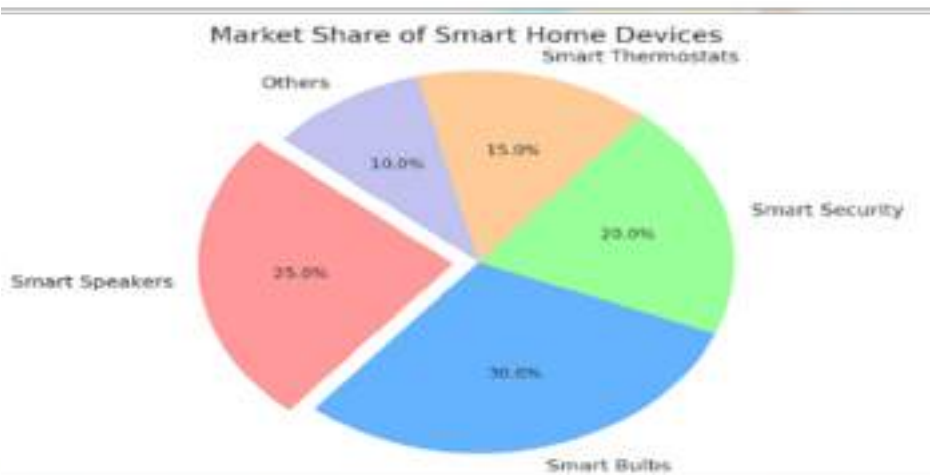
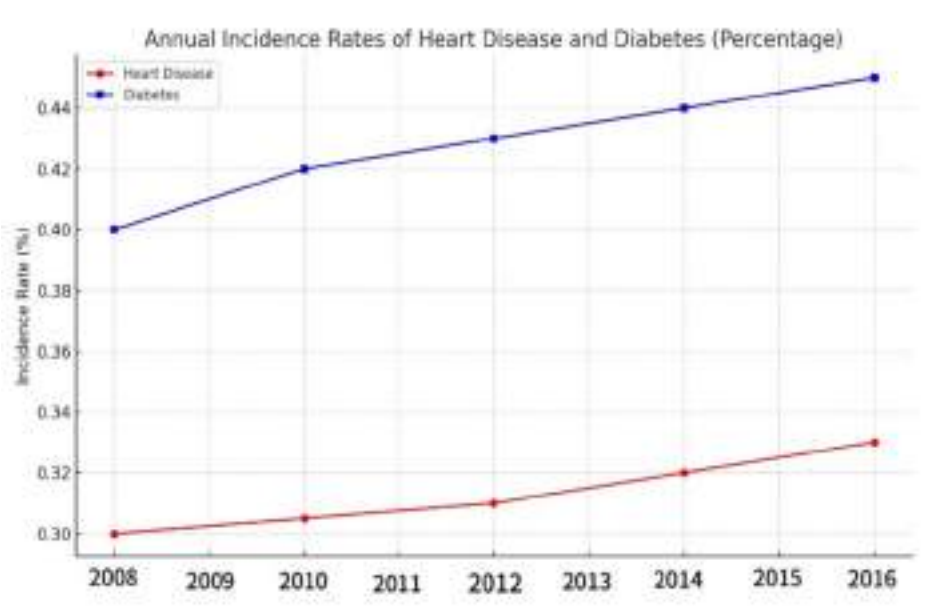


### Table of Baby sleep hours

Age	Nighttime sleep	Daytime sleep*	Total sleep
1 month	8.5	7(3)	15.5
6 months	10	3.5 (2)	13.5
18 months	11.25	1.25 (1)	12.5

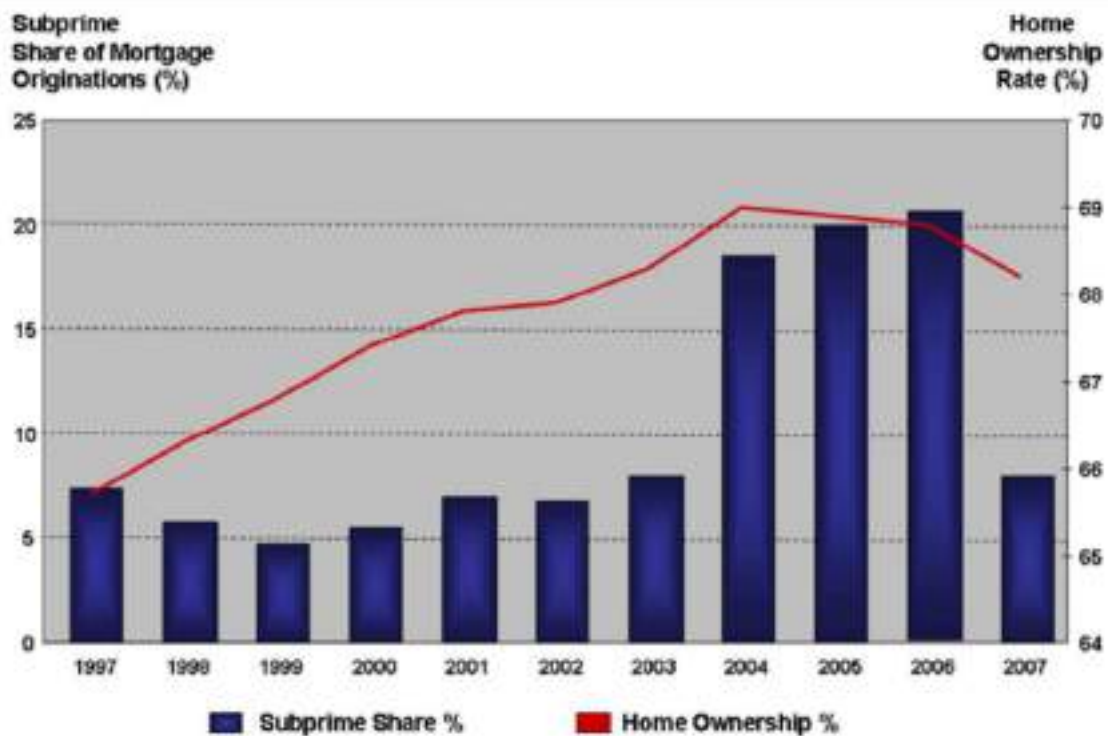
\*Note: Number of naps in the parentheses.





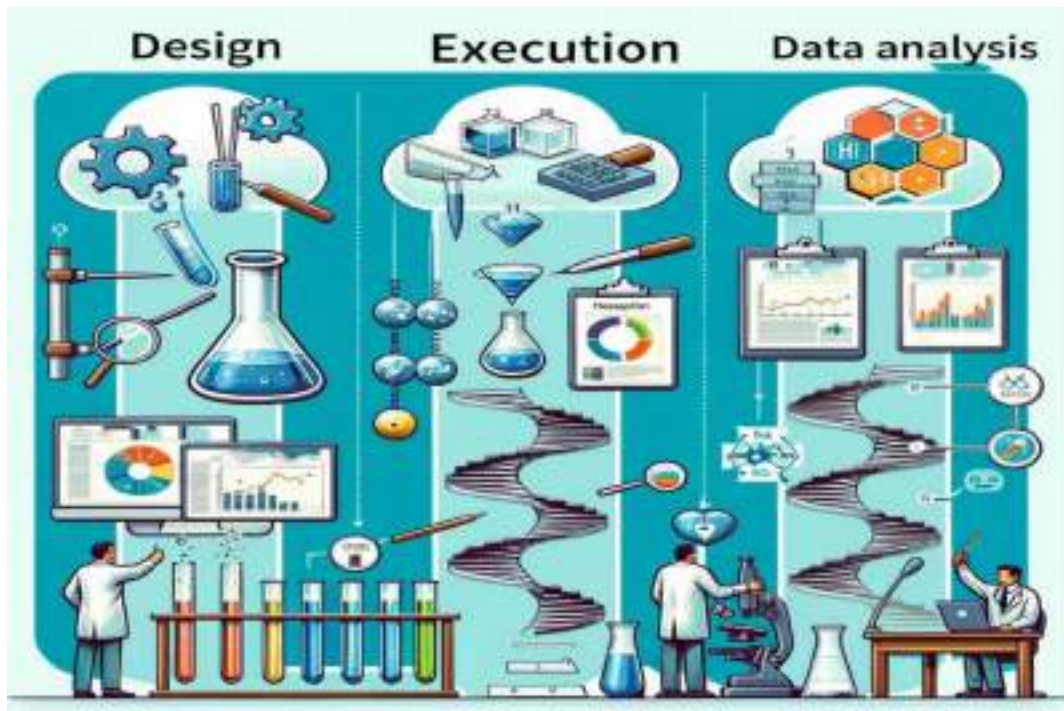


## U.S. Subprime Lending Expanded Significantly 2004-2006

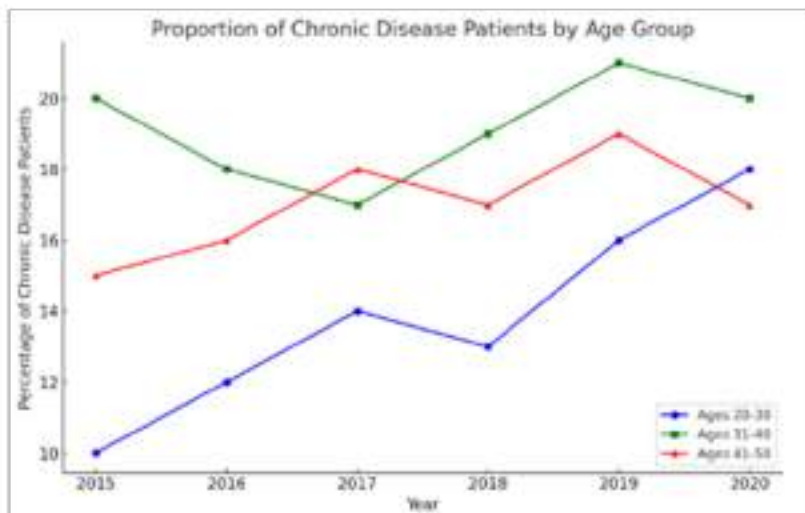
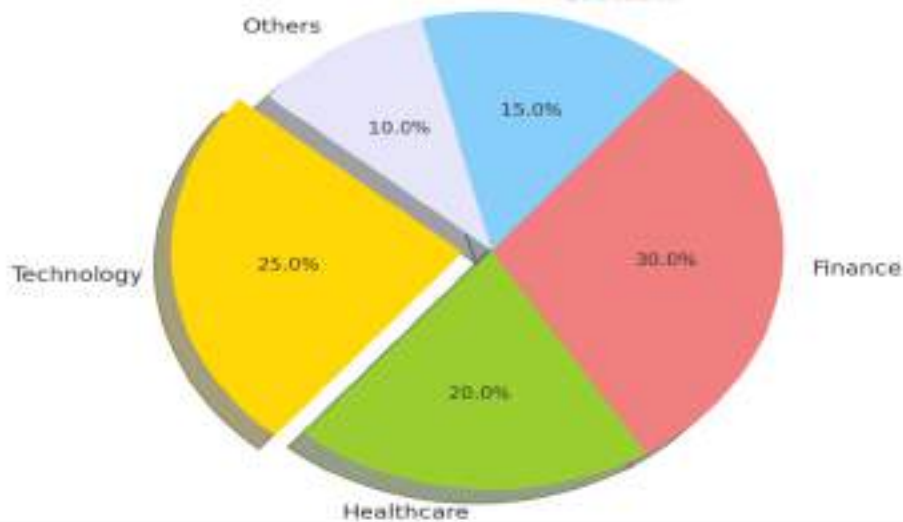


Sources: U.S. Census Bureau; Harvard University- State of the Nation's Housing Report 2008

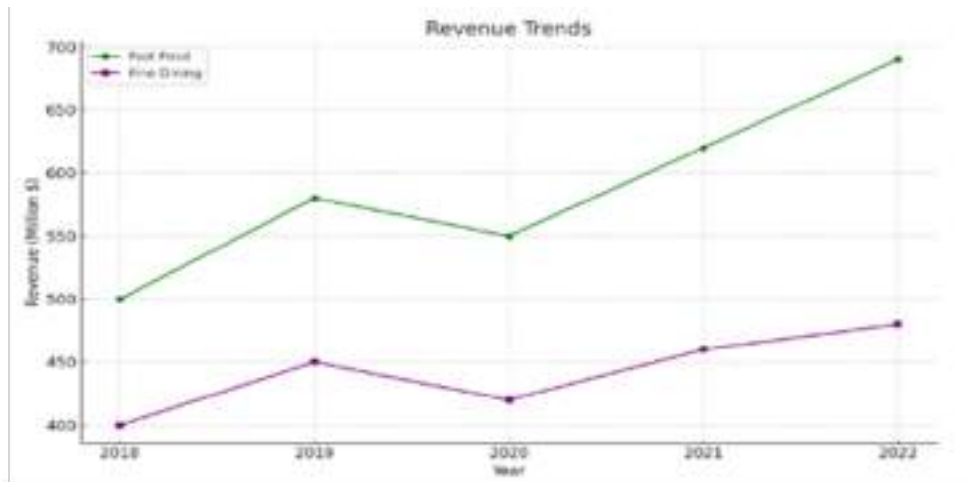


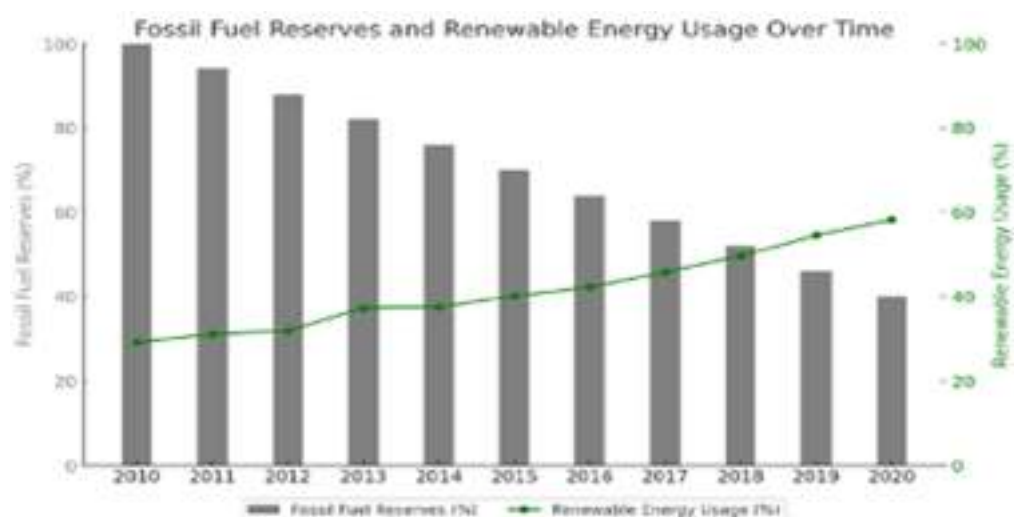


Investment Distribution by Sector in 2023  
Education

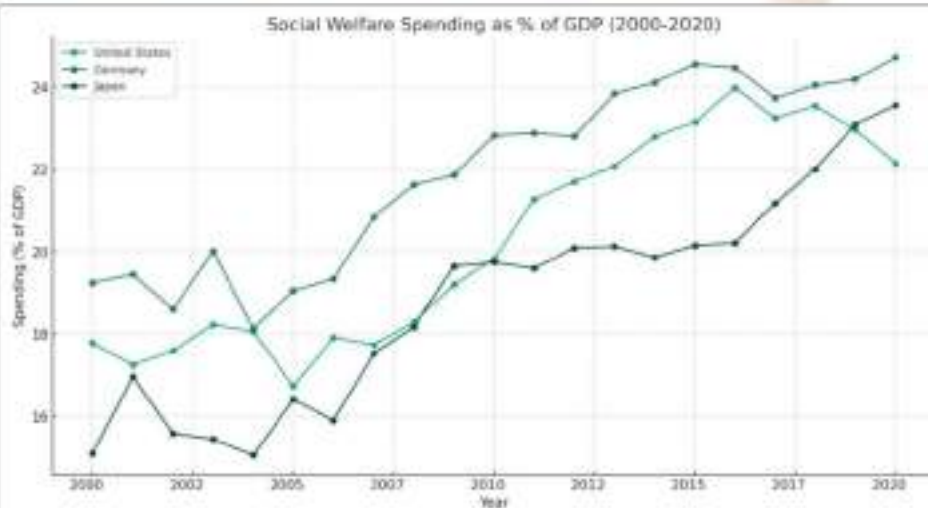
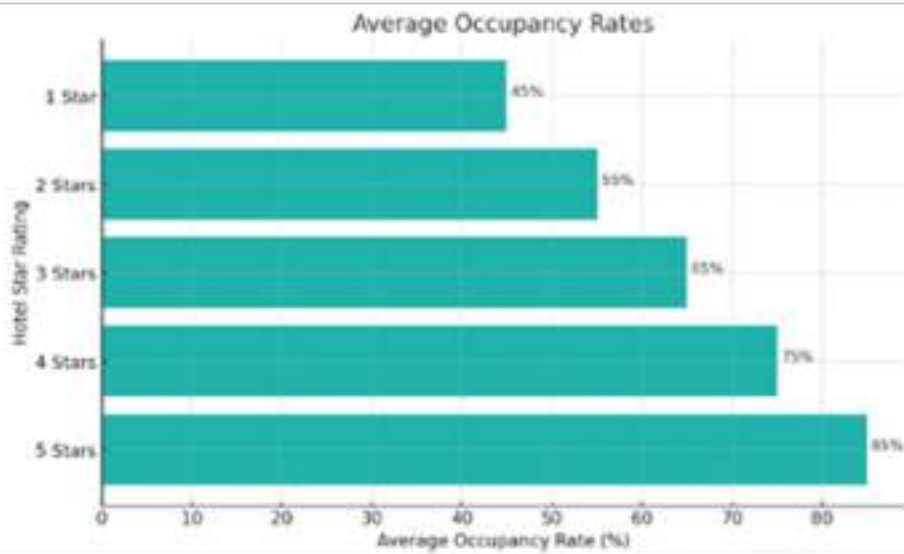
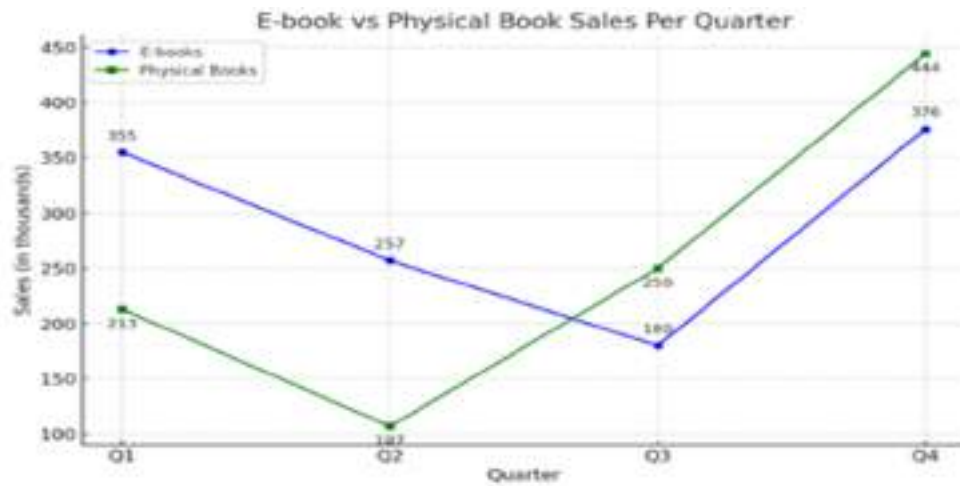




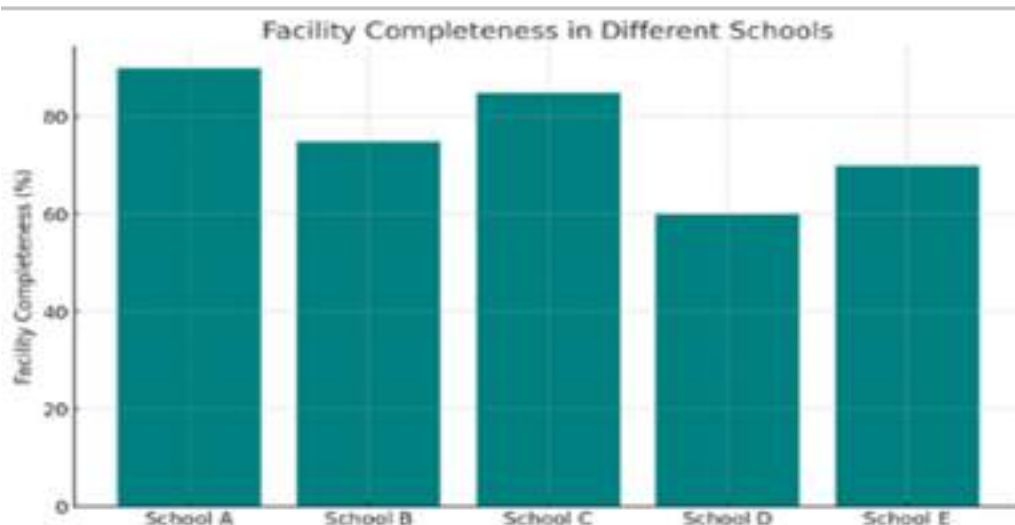




REGIONAL GERD SHARES						
	2020 GDP Share	2020 GERD Share	2021 GDP Share	2021 GERD Share	2022 GDP Share	2022 GERD Share
North America	20.0%	29.1%	20.1%	29.2%	20.1%	29.2%
South America	4.9%	2.0%	5.0%	2.0%	4.8%	1.9%
Asia	42.0%	41.3%	42.3%	41.3%	42.7%	41.8%
Europe	20.2%	21.7%	20.2%	21.7%	20.1%	21.6%
Middle East	3.9%	2.3%	3.7%	2.2%	3.7%	2.2%
Russia	4.3%	2.3%	4.3%	2.3%	4.2%	2.3%
Africa	4.5%	1.2%	4.4%	1.2%	4.3%	1.1%

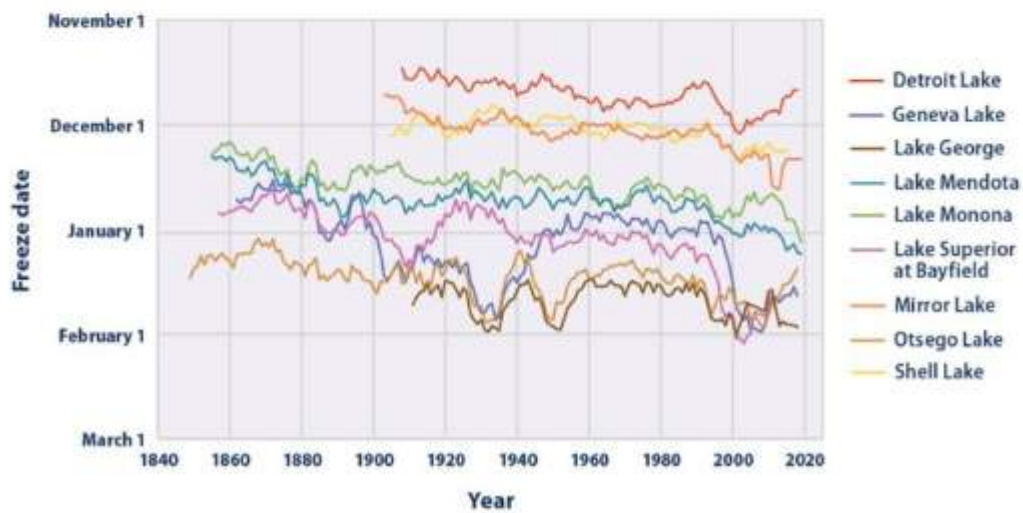
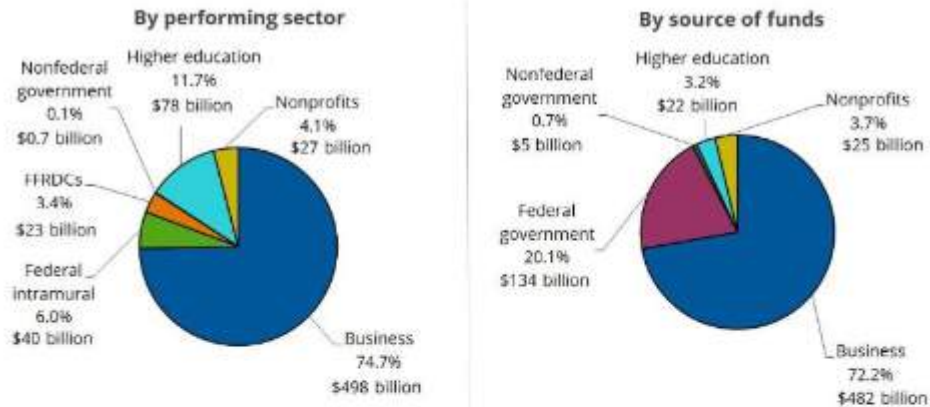


Statistics Master's Degrees	2016	2017	2018	2019	2020	2016-2020
Columbia University	435	441	454	560	521	2411
The University of Chicago	119	99	155	139	181	693
The George Washington University	132	117	88	104	83	524
University of Michigan	74	81	119	114	120	508
Rutgers University	106	78	124	111	83	502
<b>Subtotal</b>	<b>866</b>	<b>816</b>	<b>940</b>	<b>1028</b>	<b>988</b>	<b>4638</b>
<b>Total</b>	<b>3253</b>	<b>3366</b>	<b>3515</b>	<b>3747</b>	<b>4026</b>	<b>17907</b>

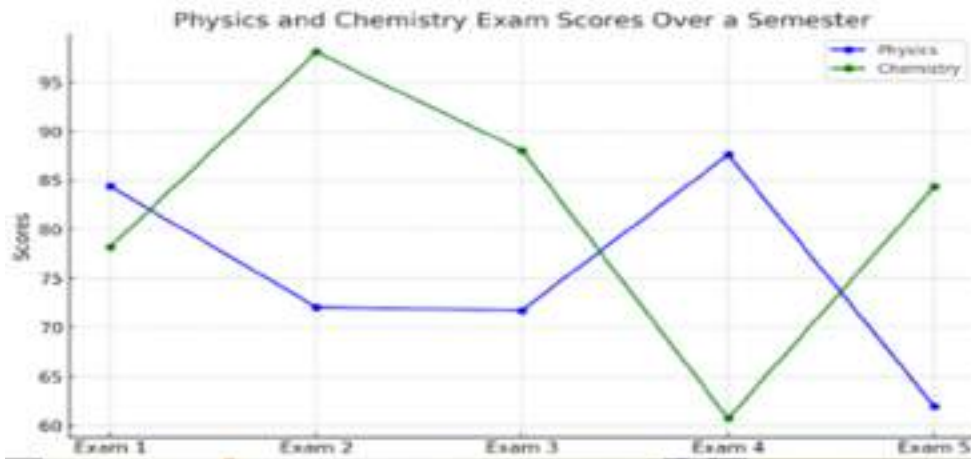


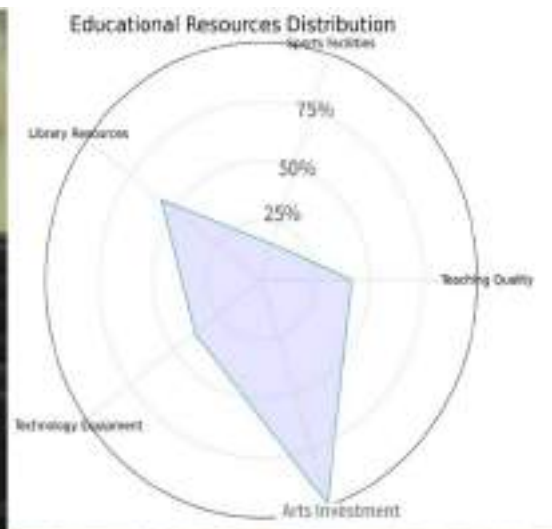
ONE AUSTRALIA

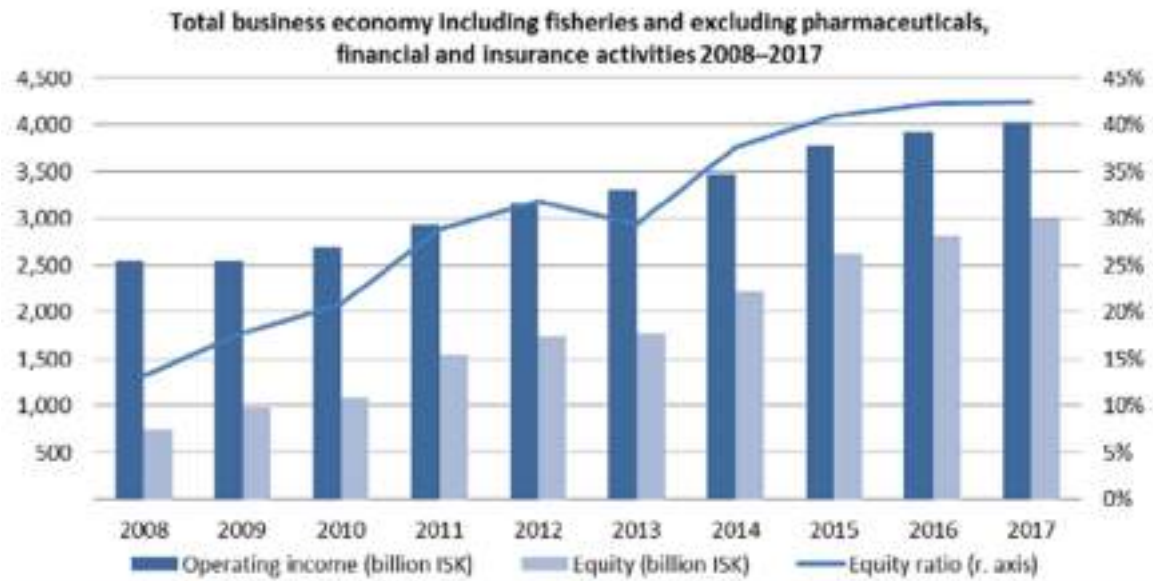
**U.S. total of R&D expenditures in 2019: \$667 billion**





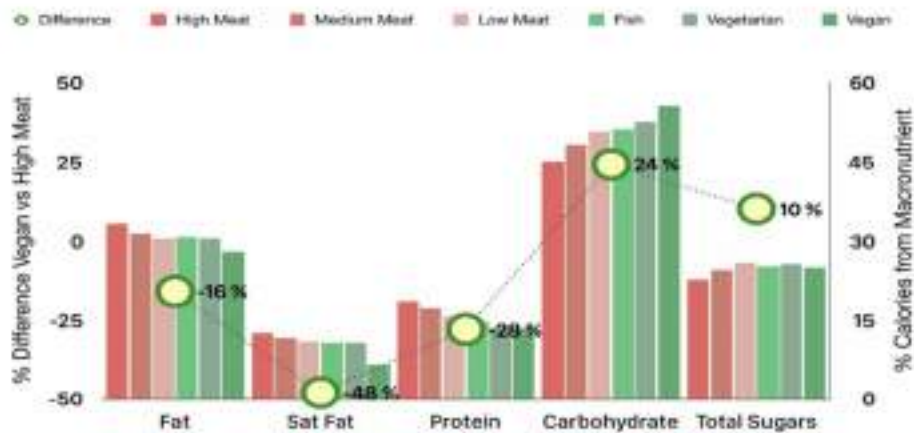








## A Lower Carbon Diet is a Higher Carbohydrate/Higher Sugar Diet



## WORLD POPULATION DATA

THE PERCENT OF YOUTH (AGES 15-24) IN THE POPULATION VARIES WIDELY BY COUNTRY

### SMALLEST

BULGARIA	9.1
SLOVENIA	9.3
SPAIN	9.3
JAPAN	9.4
CZECH REPUBLIC	9.4
ESTONIA	9.5
LATVIA	9.5

### LARGEST

ETHIOPIA	21.8
LESOTHO	21.7
SWAZILAND	21.7
TIMOR-LESTE	21.7
AFGHANISTAN	21.4
YEMEN	21.3
GUATEMALA	21.3

SOURCE: POPULATION REFERENCE BUREAU • WORLDPOPDATA.ORG • #WORLDPOPDATA

## WHAT PLATFORMS ARE YOU TARGETING WITH YOUR APPS?

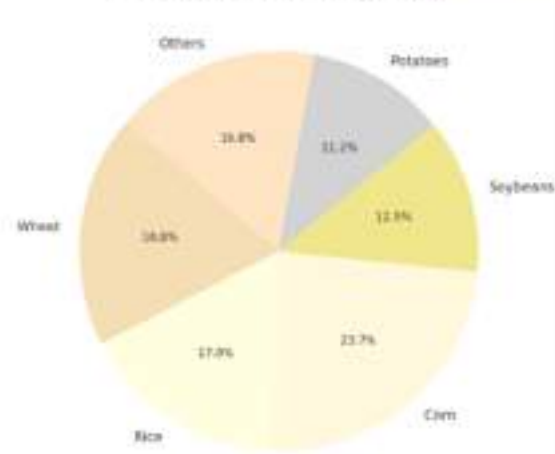
ANSWERS FROM 590 DEVELOPERS



Platform	Focus	Must have	Supported	Sometimes	Not at all
Web	370	153	33	23	11
iOS	261	207	53	28	41
Android	182	221	102	47	38
Windows	10	46	131	173	230
Blackberry	8	15	100	164	303



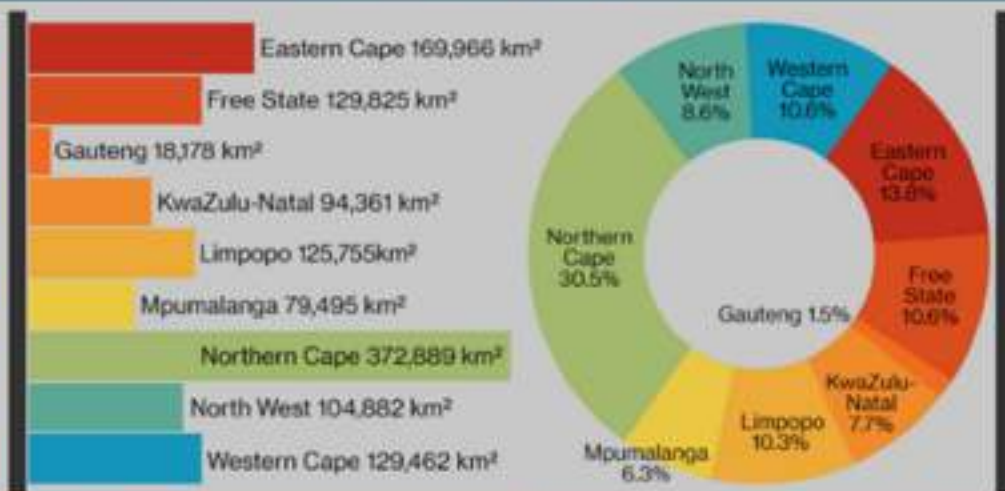
Annual Crop Production Distribution

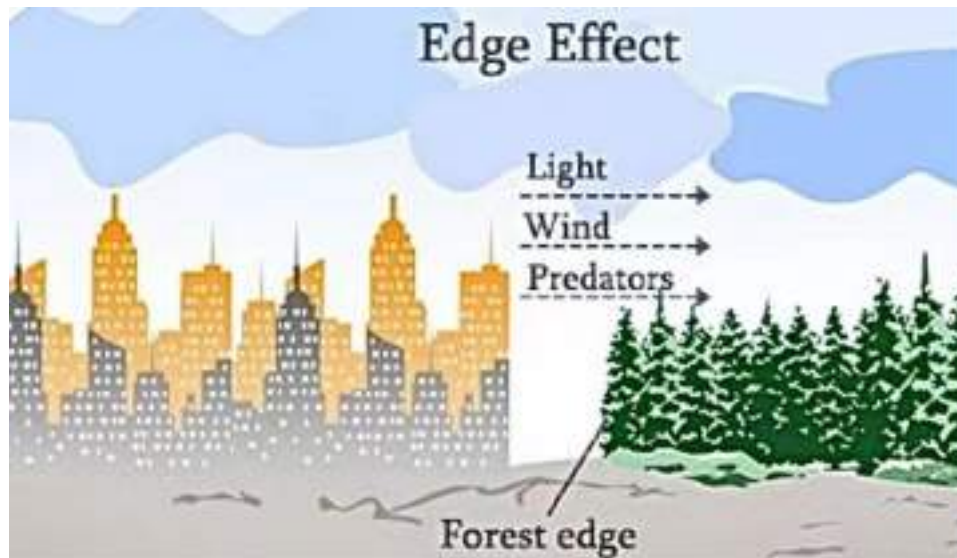






### South Africa's nine provinces – land area





**Global annual temperature and CO2 levels, 1959–2016**

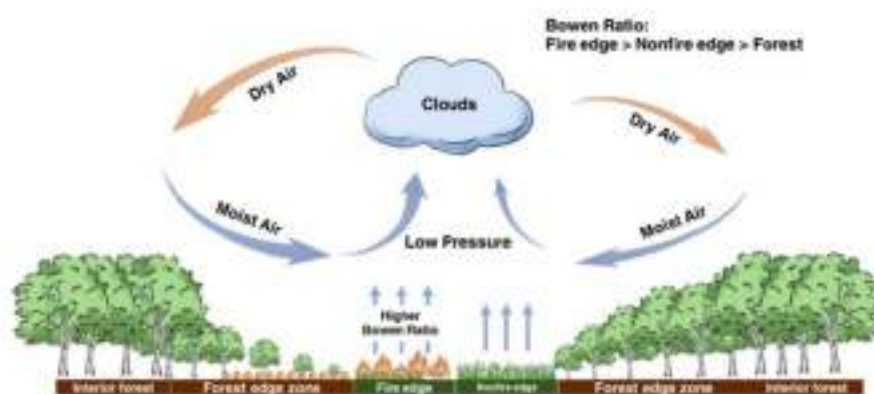
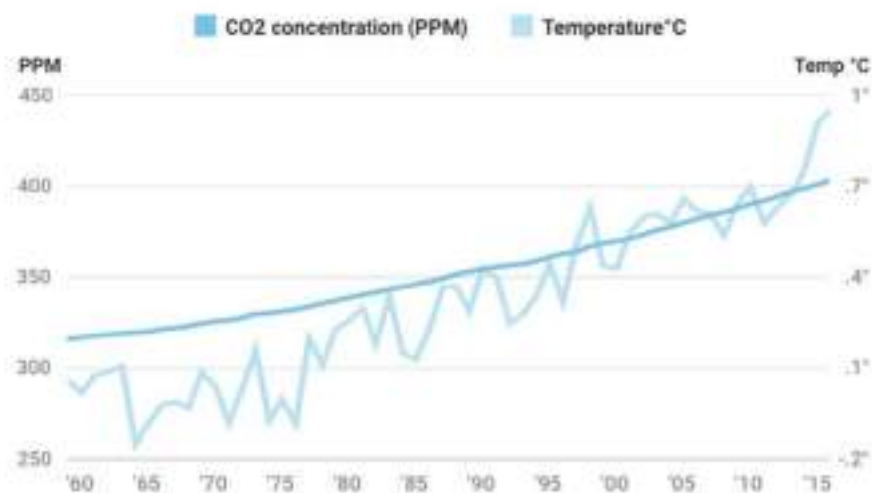
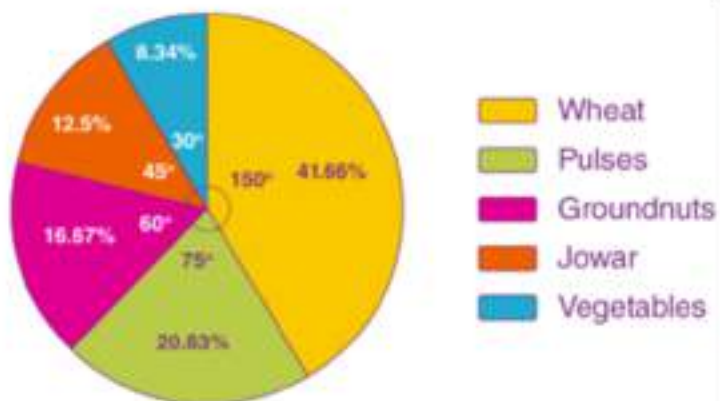
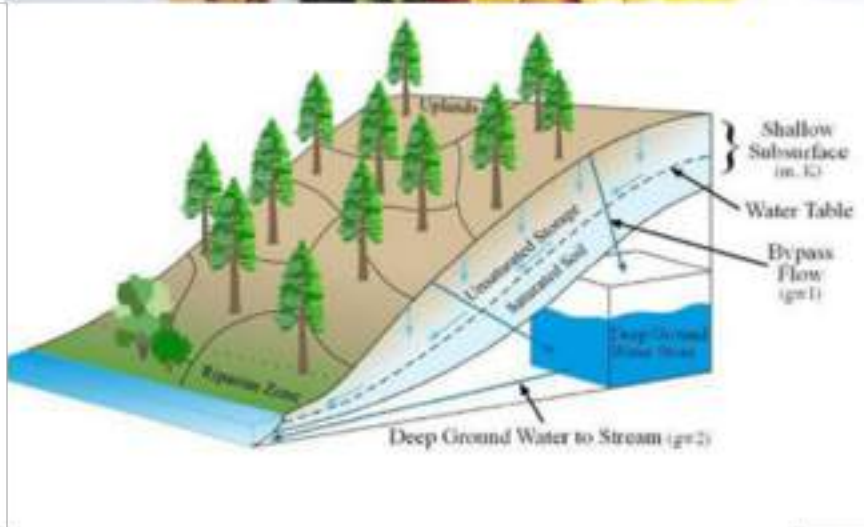


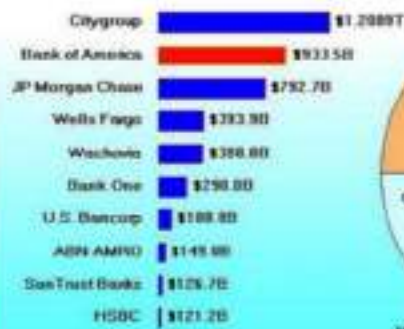
Figure 1 Schematic diagram of forest edge effect and its forest degradation mechanism



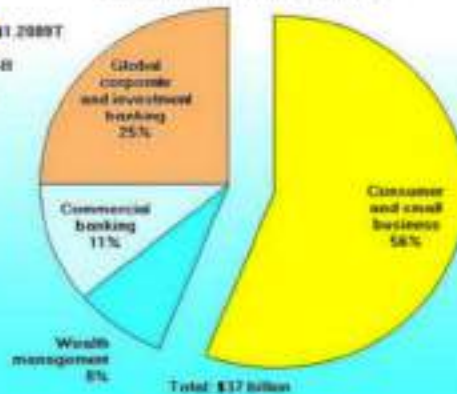


## Bank of America Bets on Consumer

Top US banks ranked by assets

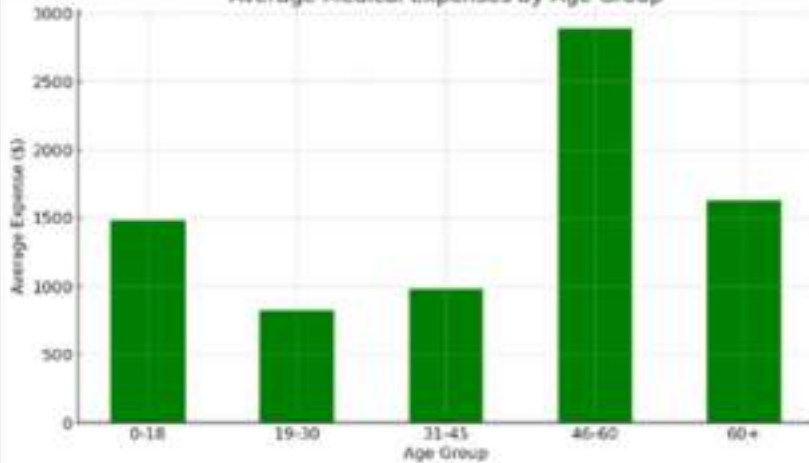


Bank of America - Revenue by segment for the first nine months of the year



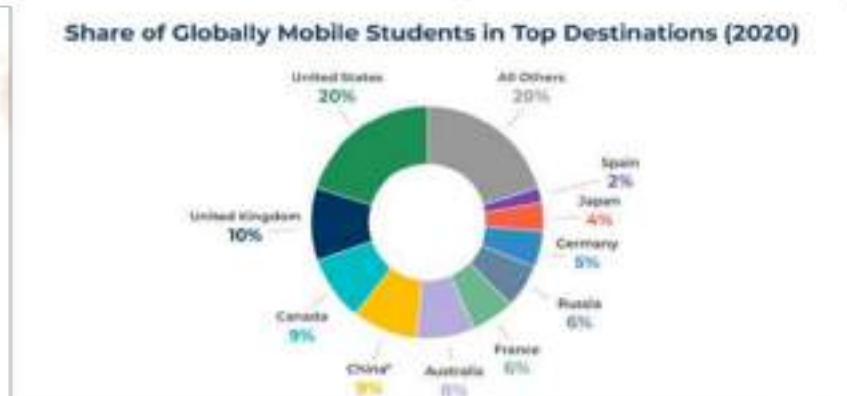
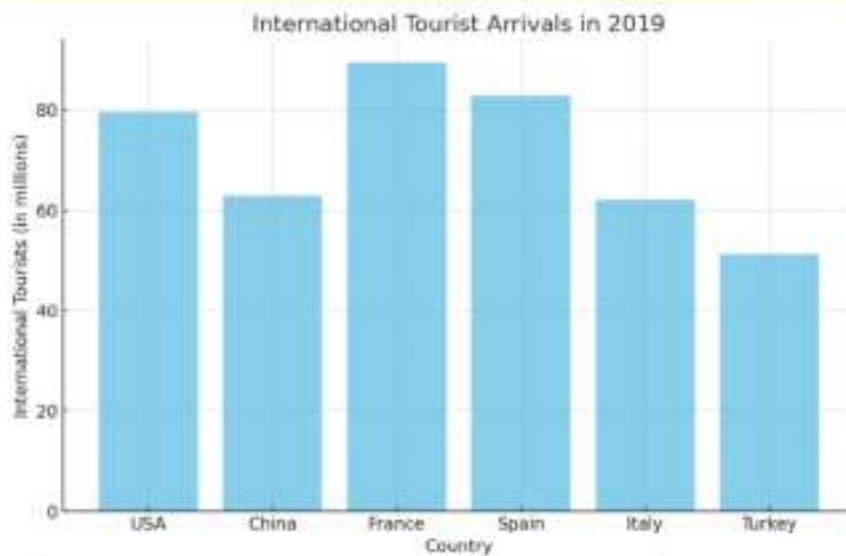
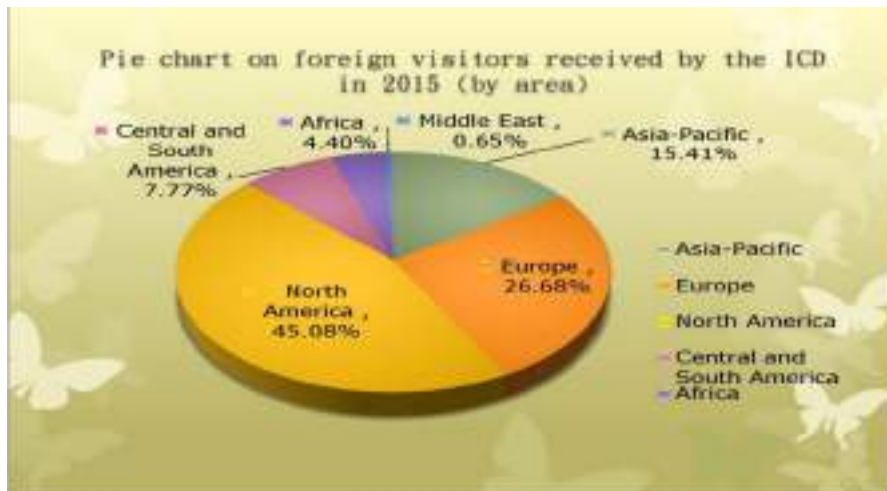
Source: Wall Street Journal, 10-27-2001, page A1.

Average Medical Expenses by Age Group

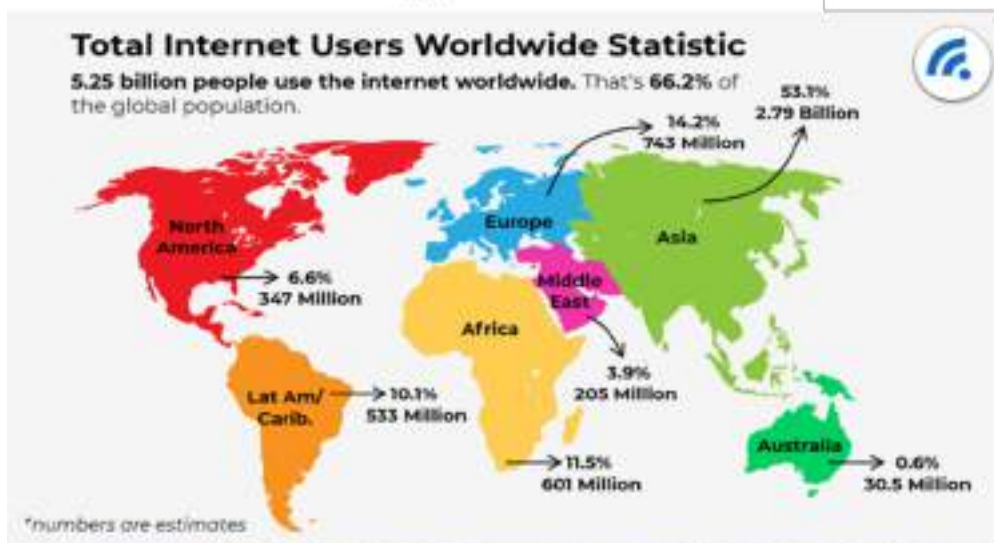
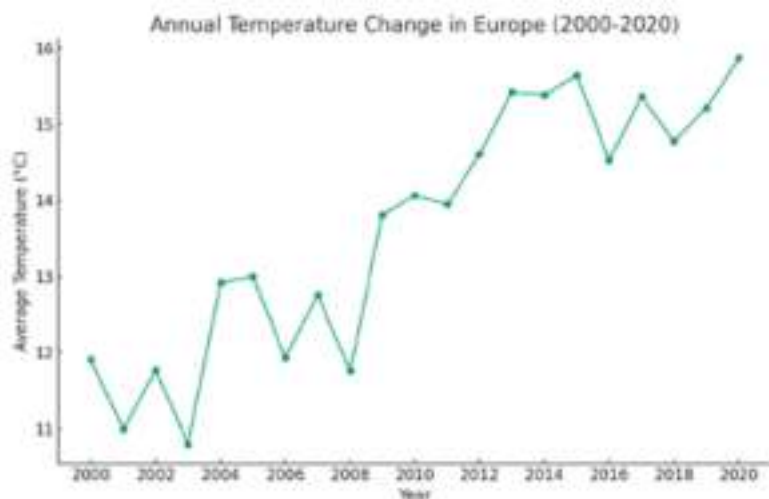


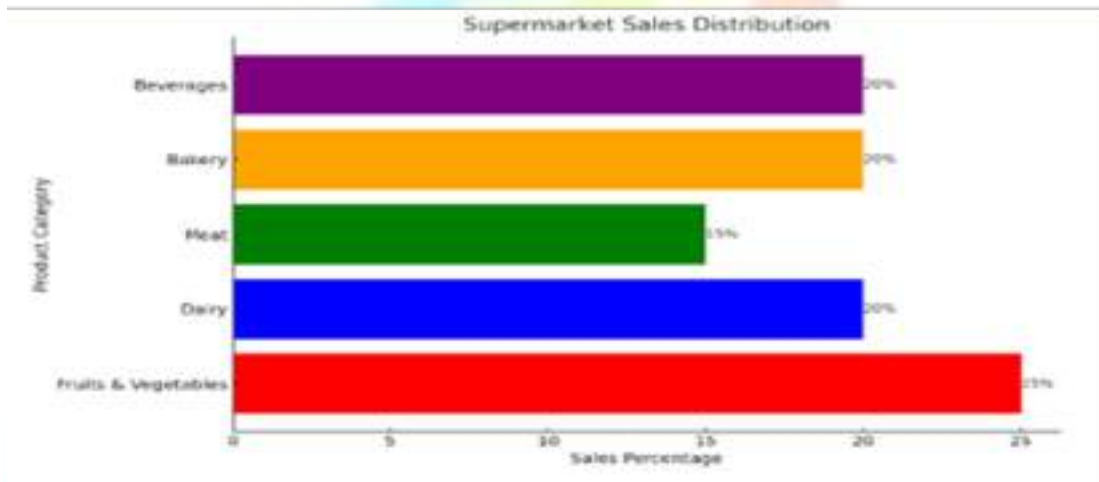
## Average Costs of Running a Coffee Shop











### November jobs one-month net change

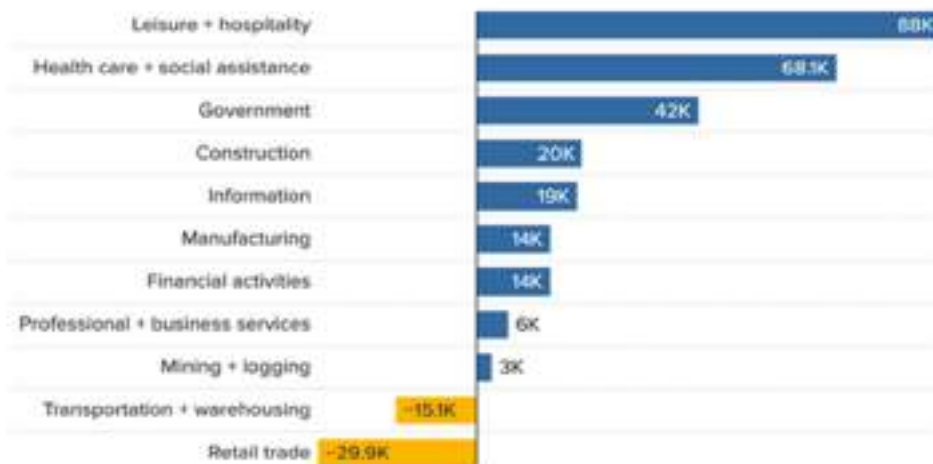
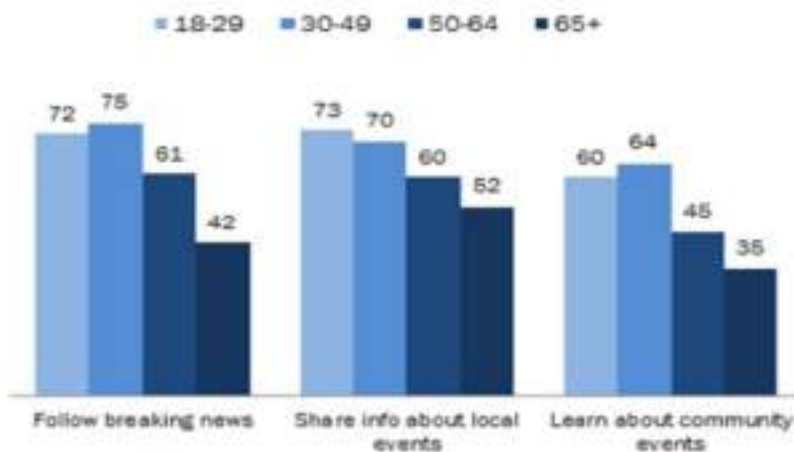


Chart: Gabriel Cortes / CNBC

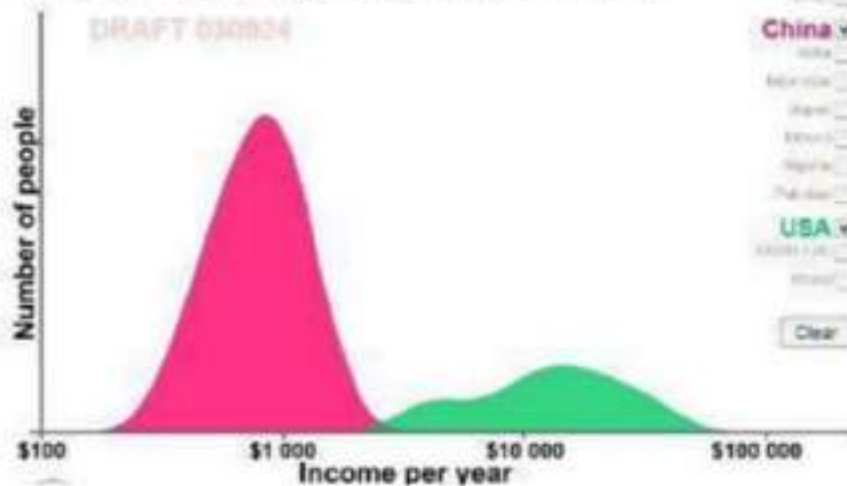


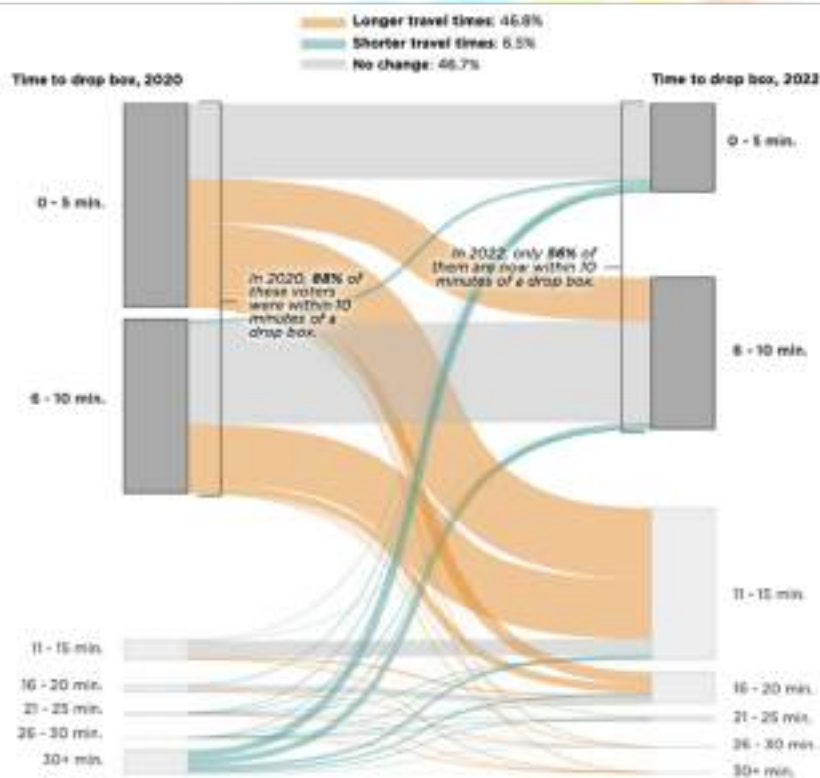
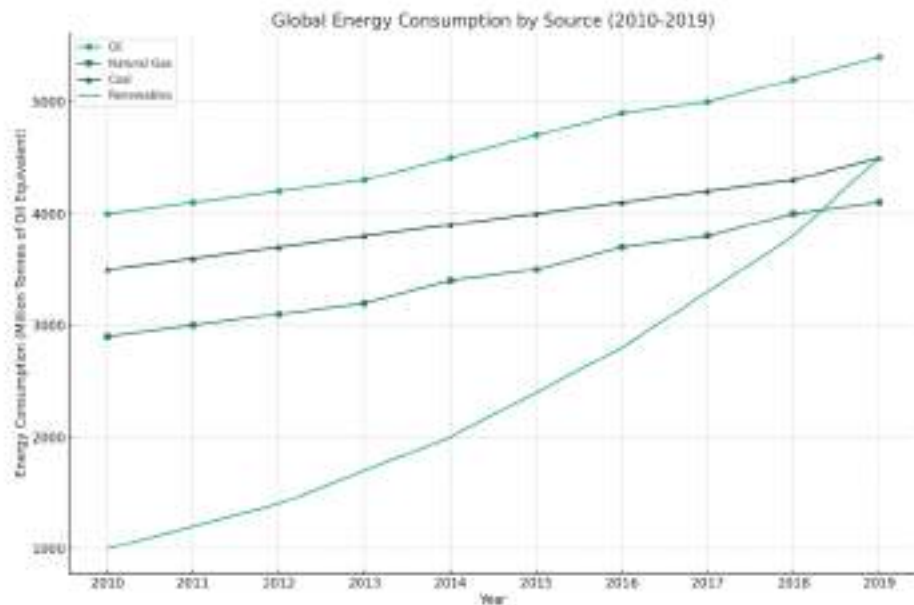
### Using One's Phone for News and Community Info is Popular Across a Range of Ages

% of smartphone owners in each age group who use their phone frequently/occasionally to...



### Income distribution 1970











# The World's Most Powerful Passports

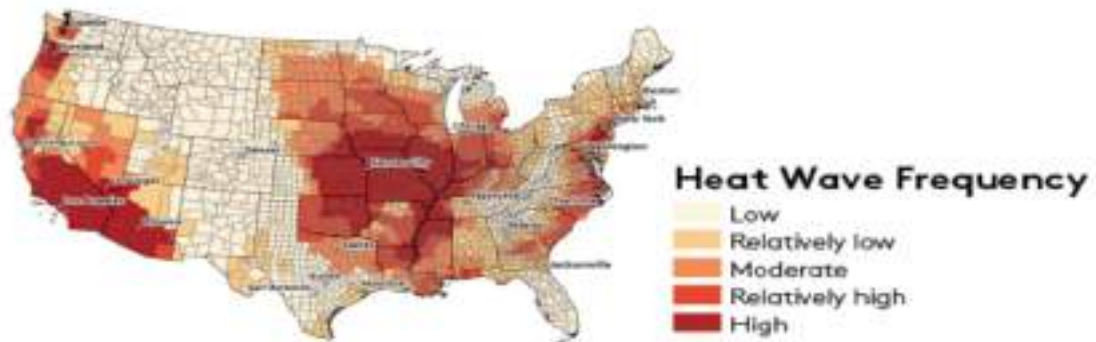
Number of visa free countries passport holders can visit in 2021

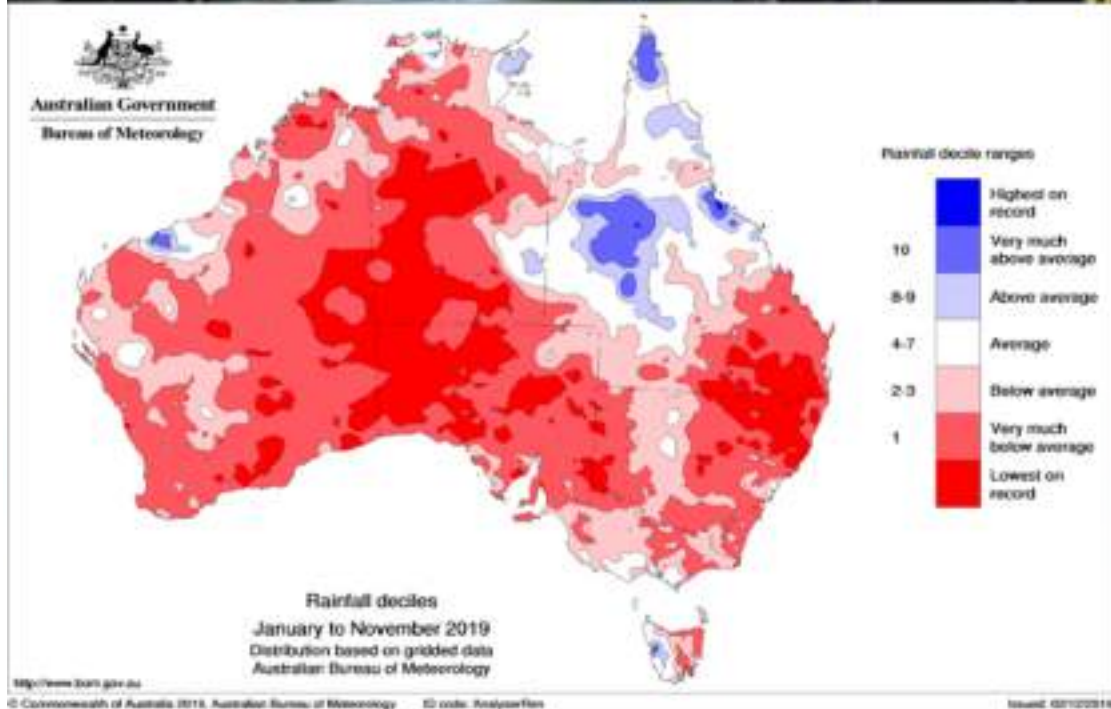


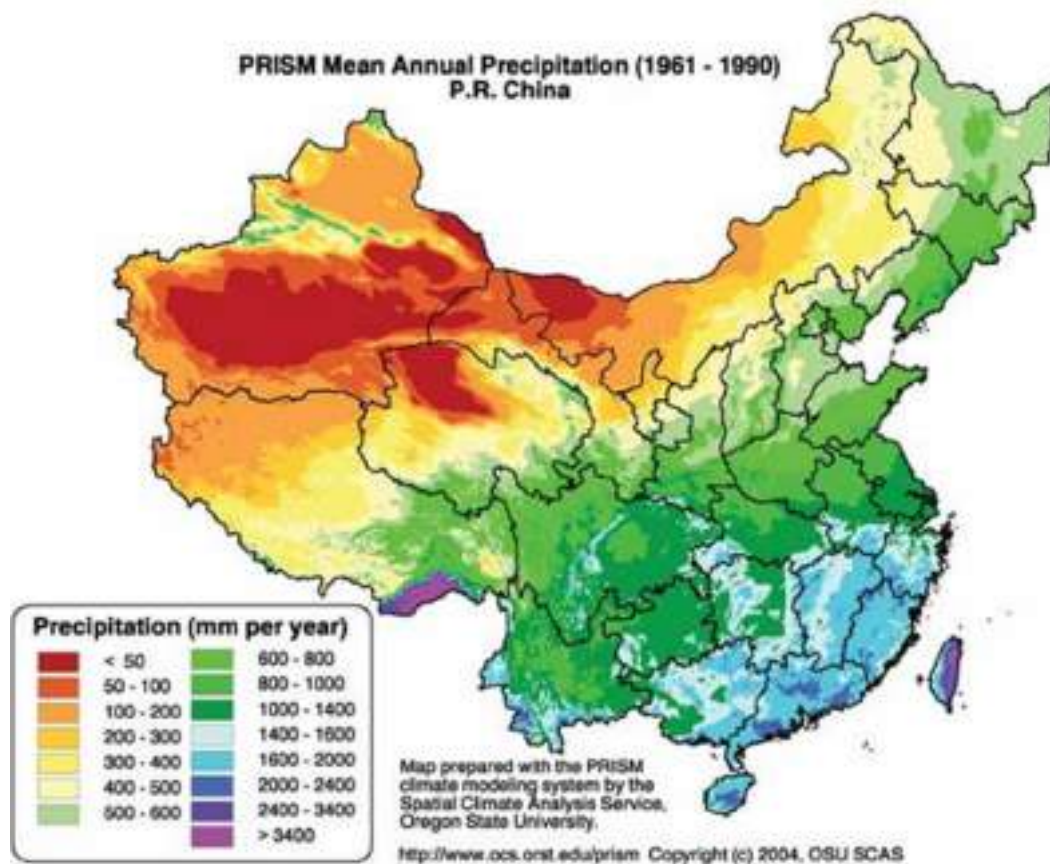
Source: Q2 2021 Henley Passport Index



statista

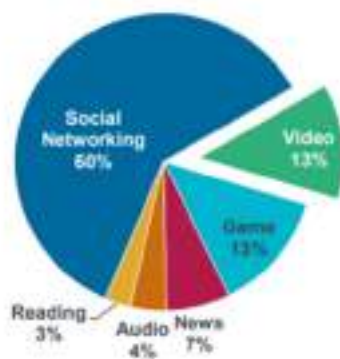




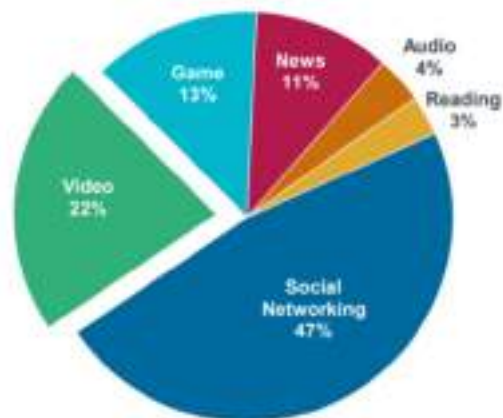


### China Mobile Media / Entertainment Daily Time Spent

March 2016  
2.0B Hours



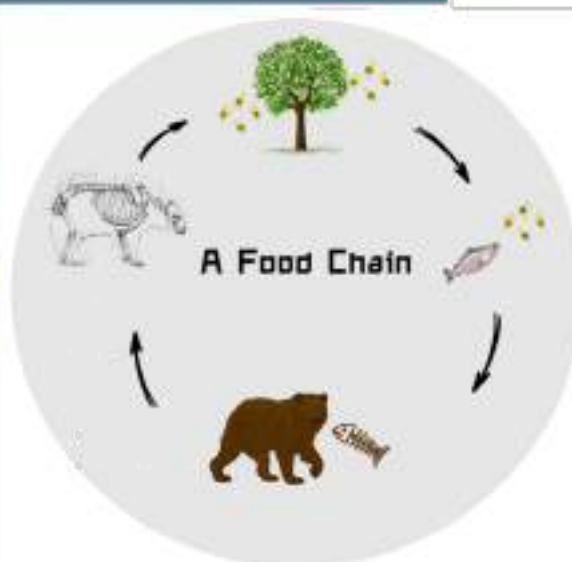
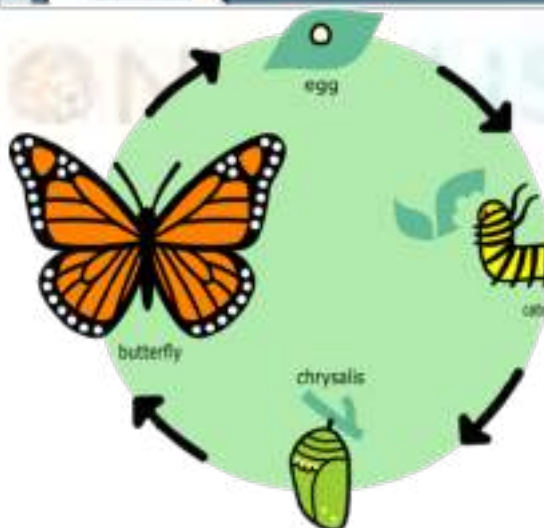
March 2018  
3.2B Hours, +22% Y/Y



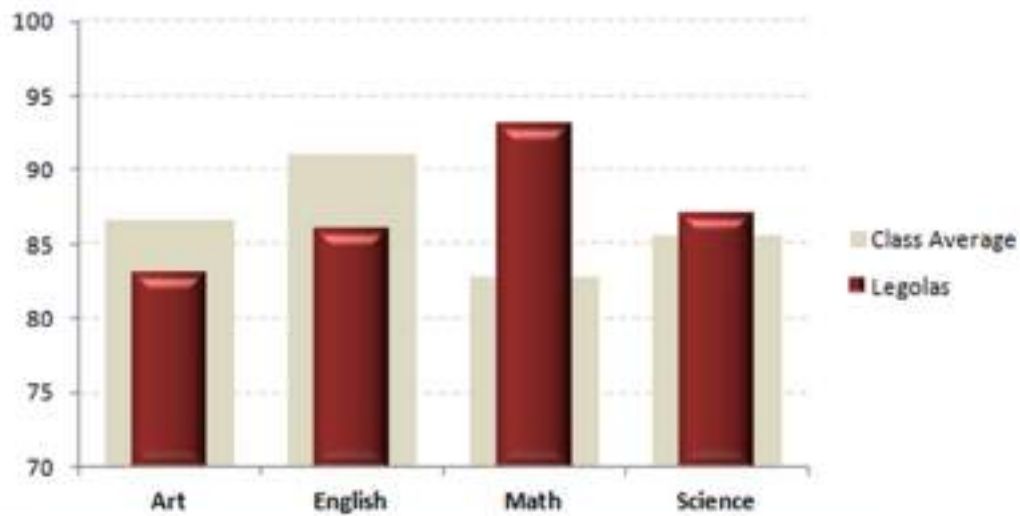


Historical Data for Bauxite mining in Australia Table

Year	Revenue (\$m)	Exports (\$m)	Imports (\$m)	Bauxite Output (Megatonne)
2011-12	1,746	326	3.70	72.9
2012-13	1,946	419	2.10	78.9
2013-14	2,130	592	1.70	80.3
2014-15	2,347	1,019	2.30	80.3
2015-16	2,310	1,088	2.10	81.5
2016-17	2,591	1,102	2.50	84.9
2017-18	3,201	1,190	2.00	95.0
2018-19	3,258	1,209	1.50	102

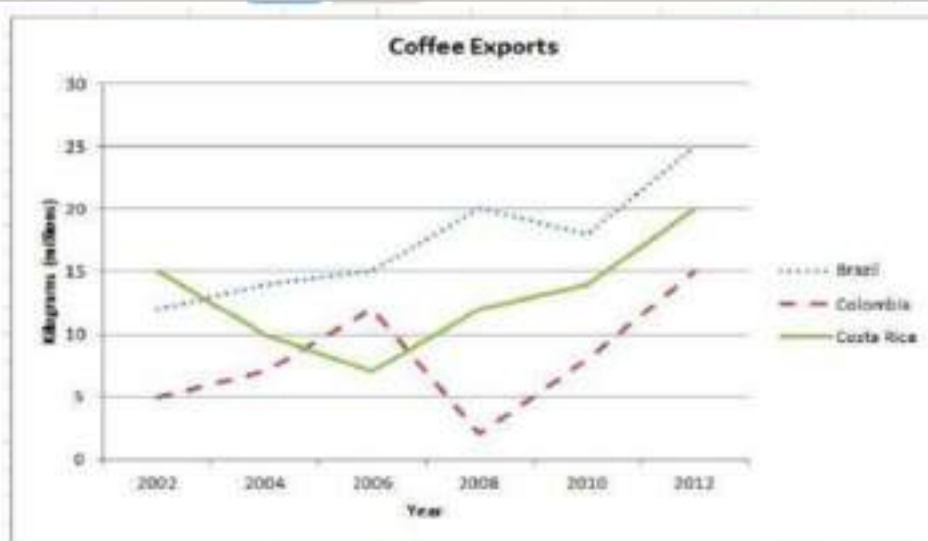


## Legolas's Marks vs Class Average



## Australia - Inbound visitors (2005 & 2006)

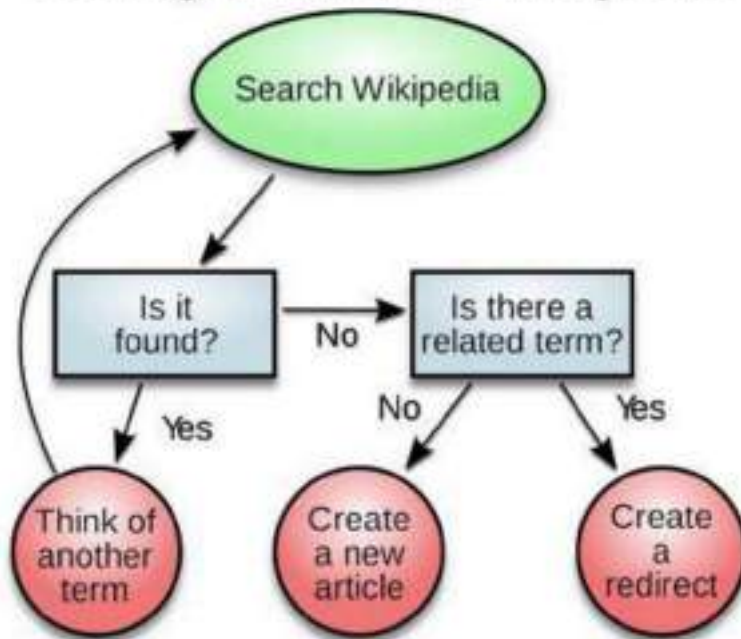
Inbound visitors to Australia	2005	2006
New Zealand	1079	1073
Japan	576	586
United States	700	720
Germany	430	410
short-term stays	...	...







## Adding an article to Wikipedia



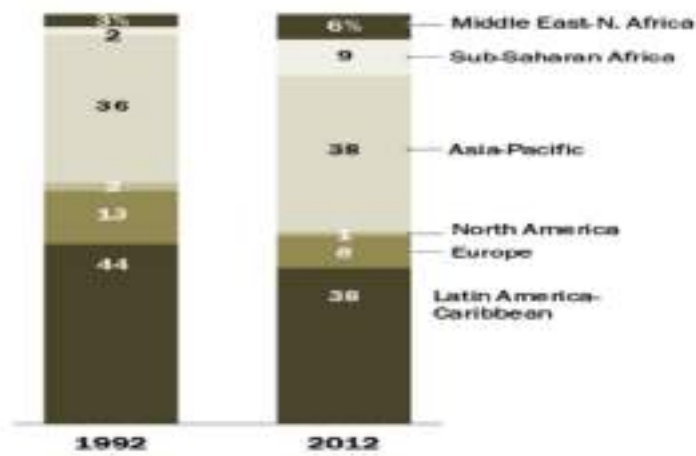
Year	South Bend	Percent of County	St. Joseph County
2005	107,899	40.5	266,371
2010	108,368	40.1	270,266
2015	109,158	39.5	276,679
2020	110,045	38.8	283,885
2028	110,914	38.1	290,946

Source: IBRC



## Growing Share of Legal Immigrants from Asia, the Middle East and Africa

Percentage of legal immigrants from ...

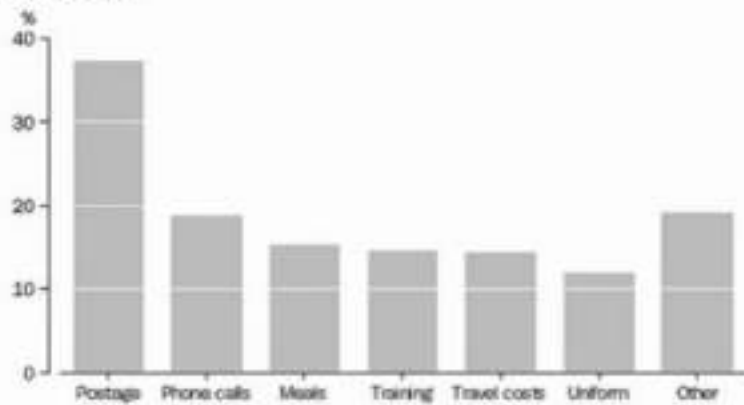


Sources: Office of Immigration Statistics—Department of Homeland Security (1992–2012)

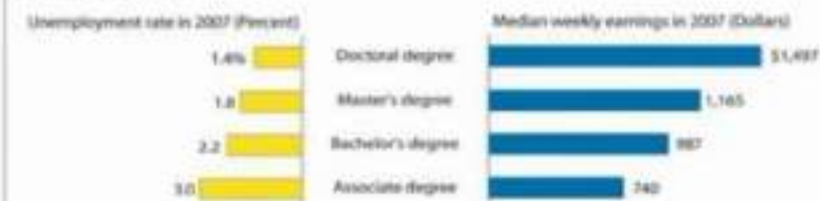
PEW RESEARCH CENTER



### VOLUNTEERS WHO INCURRED EXPENSES: REIMBURSEMENT AVAILABLE



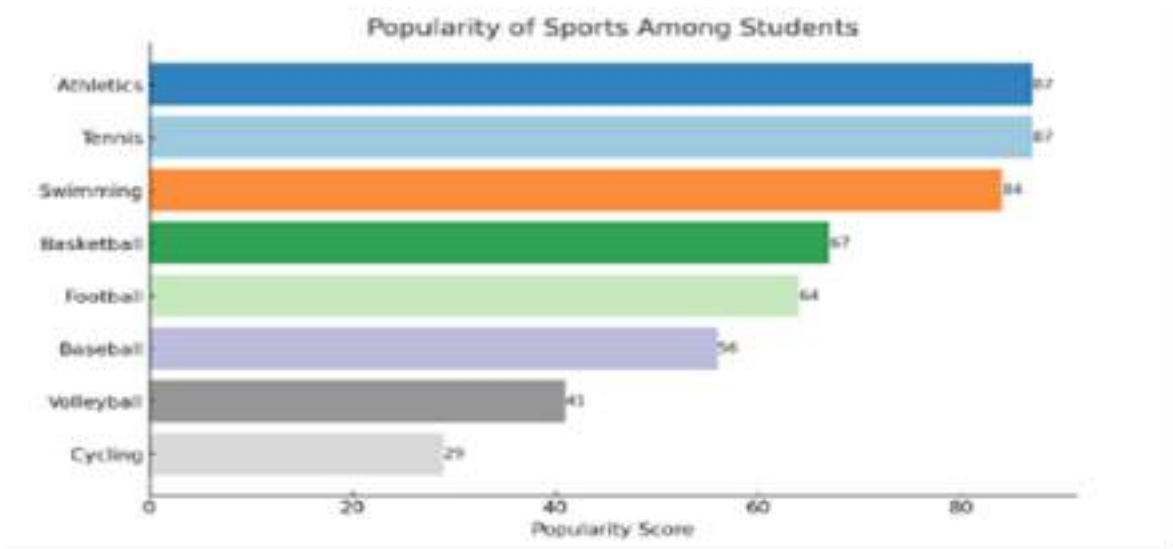
### Education Pays



Source: Bureau of Labor Statistics, Current Population Survey







## January-February-March 2019, a "small" quarter



**Category of ships, 1st quarter 2019 (tonnage)**

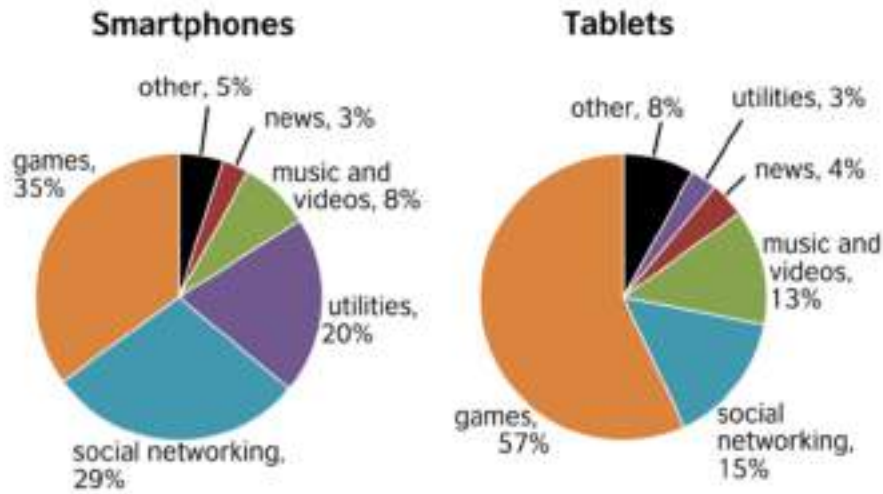


### Change of Primary Funding Sources of International Students in the U.S., 2003/04 -2013/14

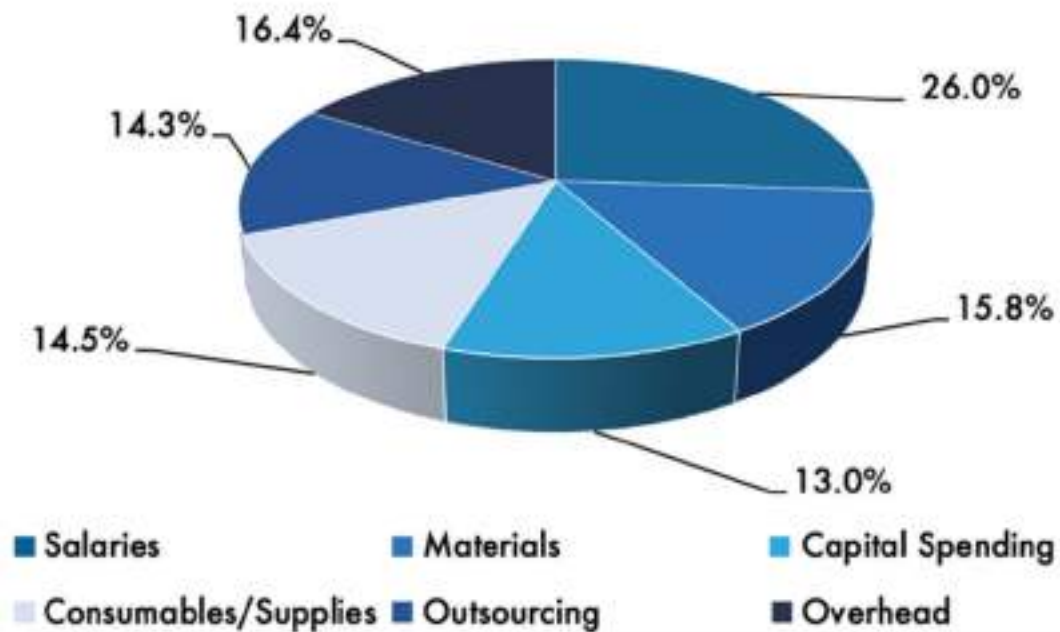
PRIMARY SOURCE OF FUNDING	2003/04		2013/14		% CHANGE FROM 2003/04 TO 2013/14
	NUMBER OF STUDENTS	% OF TOTAL	NUMBER OF STUDENTS	% OF TOTAL	
Personal and Family	385,543	67%	574,129	65%	49%
U.S. College or University	134,015	23%	171,218	19%	28%
Foreign Government or University	13,699	2%	66,147	7%	383%
Current Employer	10,111	2%	49,503	6%	390%
Other Sources	29,141	5%	25,055	3%	-14%
Total	572,509	100%	886,052	100%	55%

Source: Based on WES analysis of IIE Open Doors data (2014).

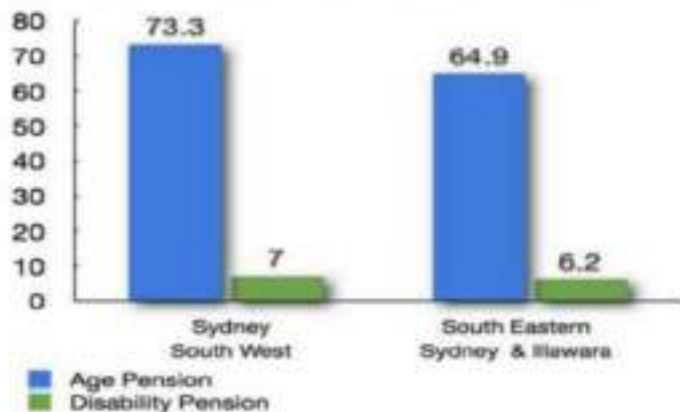
### Time spent on smartphones and tablets, by category



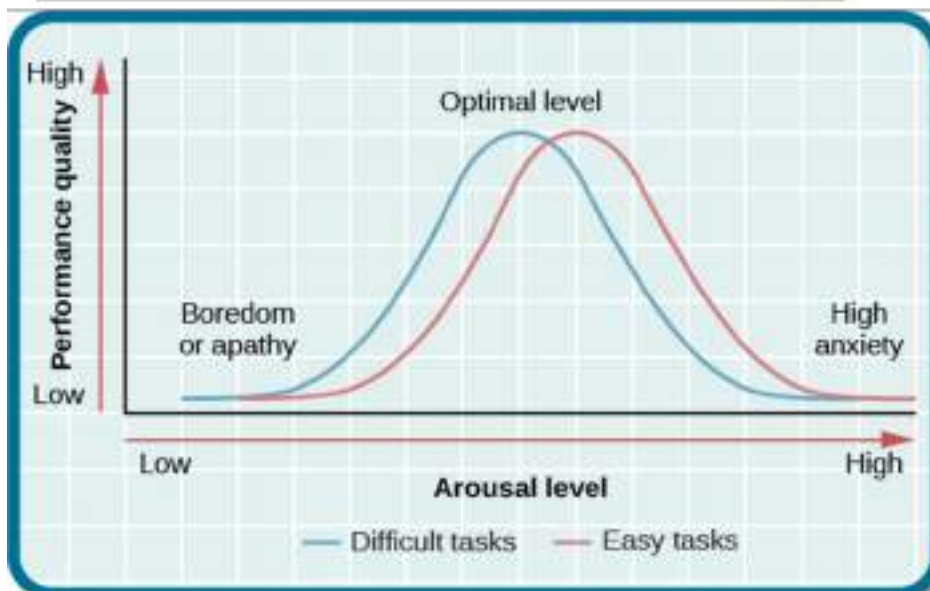
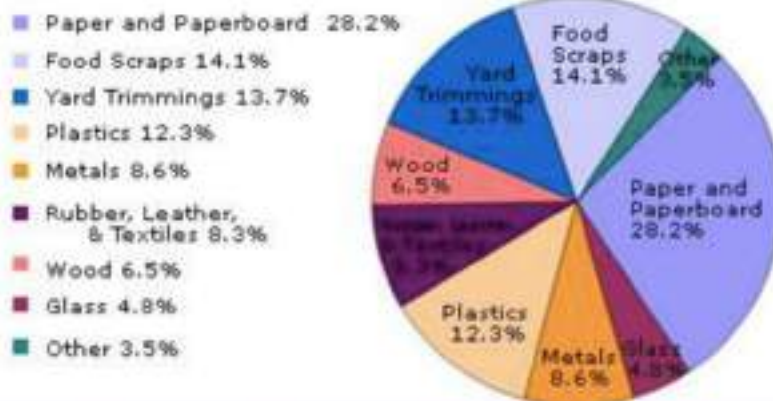
### DISTRIBUTION OF 2020 R&D BUDGET



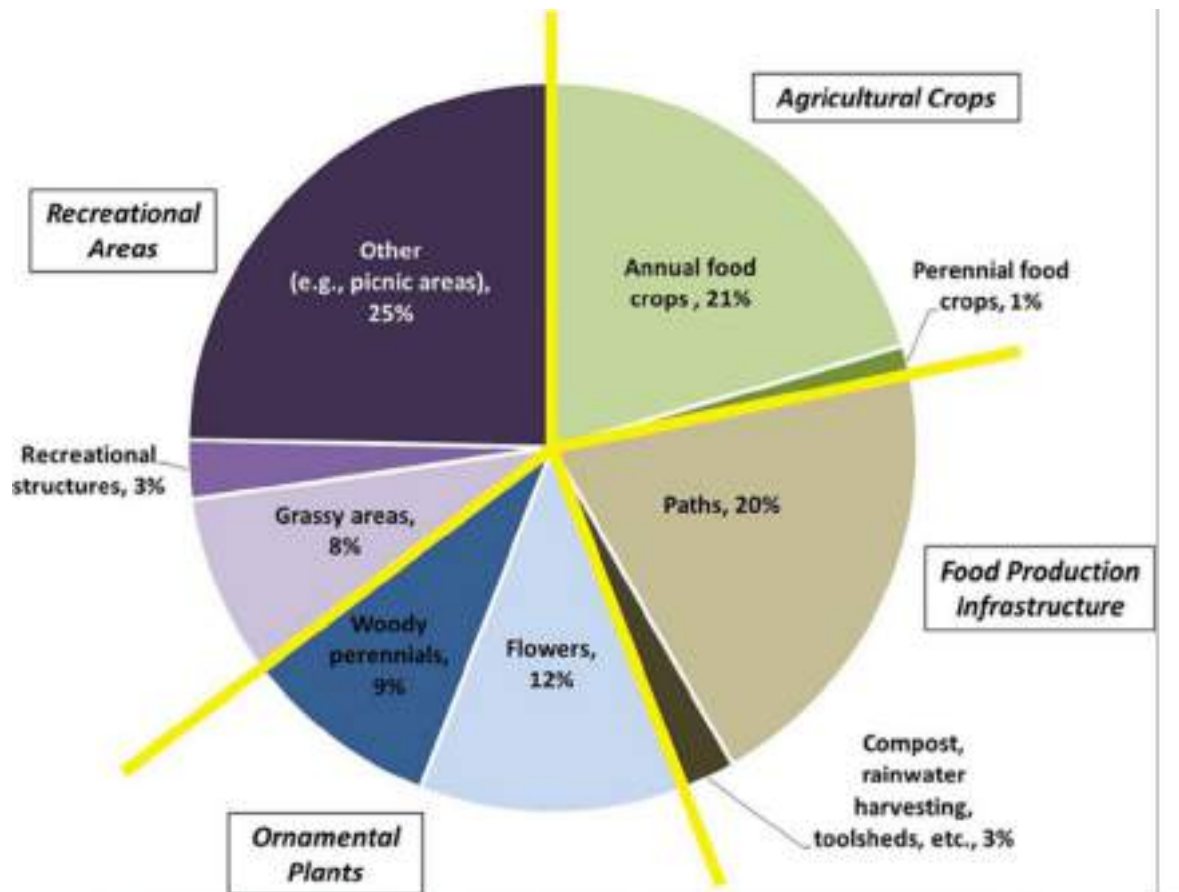
**Benefit Recipient by Health Area in Sydney, 2004**  
(Per cent of eligible population)



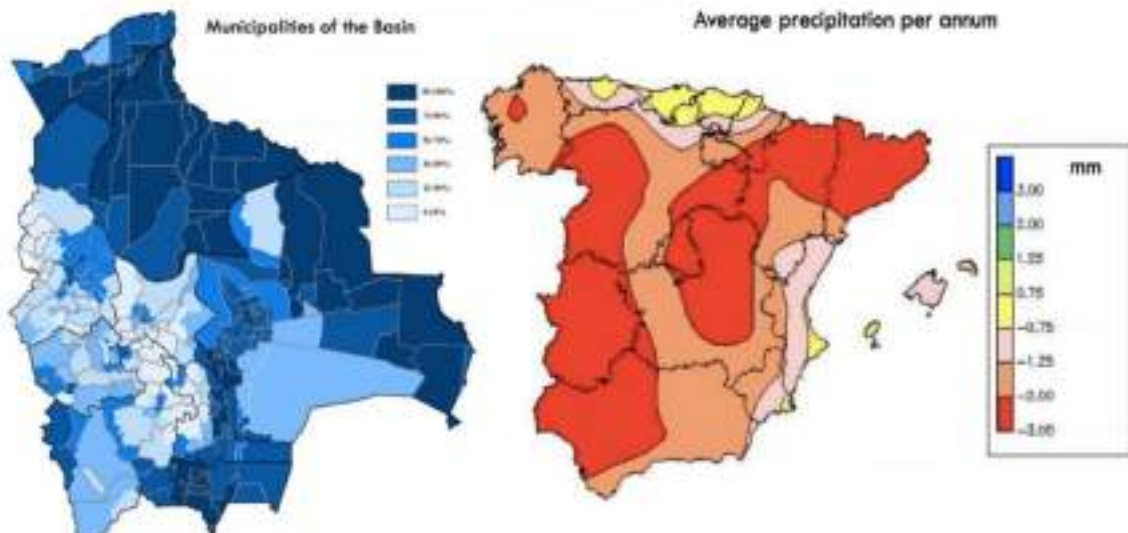
**Total MSW Generation (by Material), 2009**  
243 Million Tons (Before Recycling)



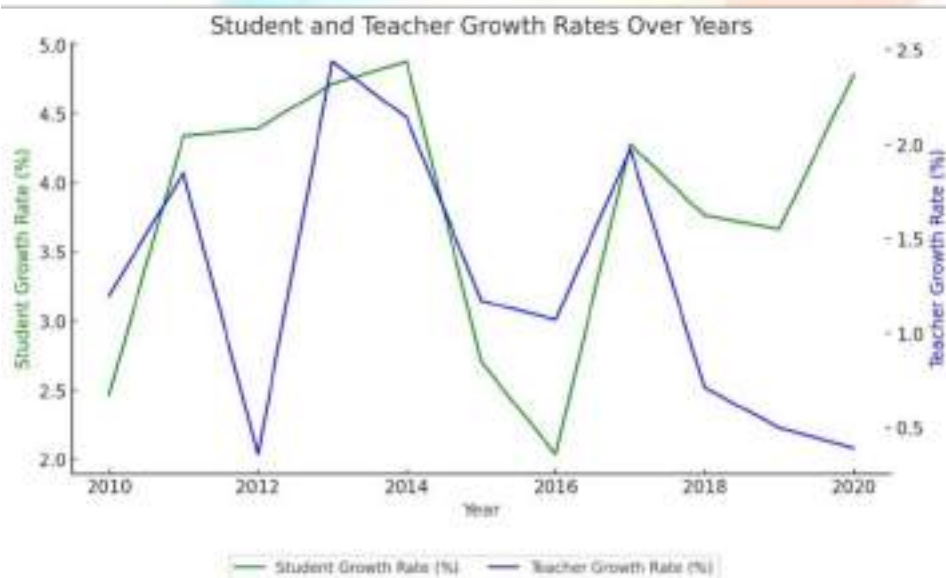
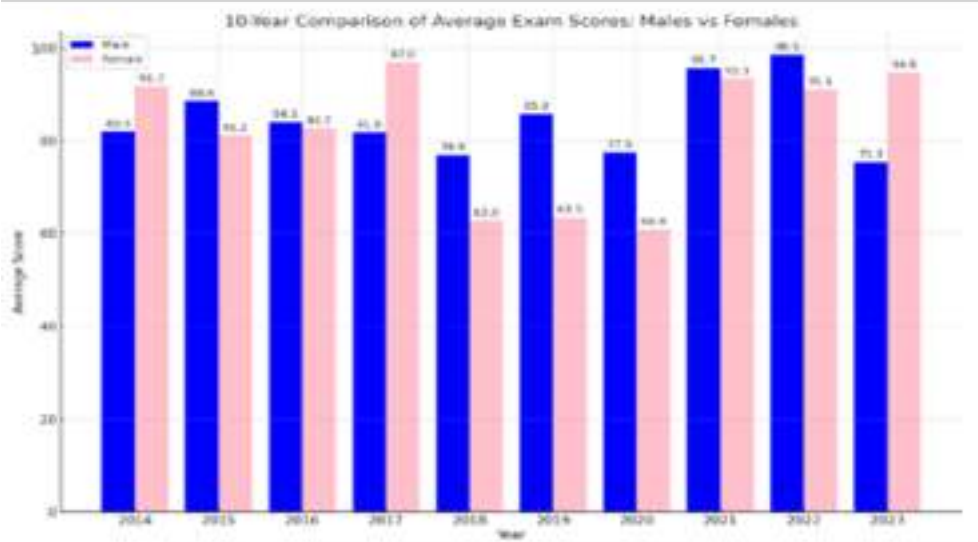




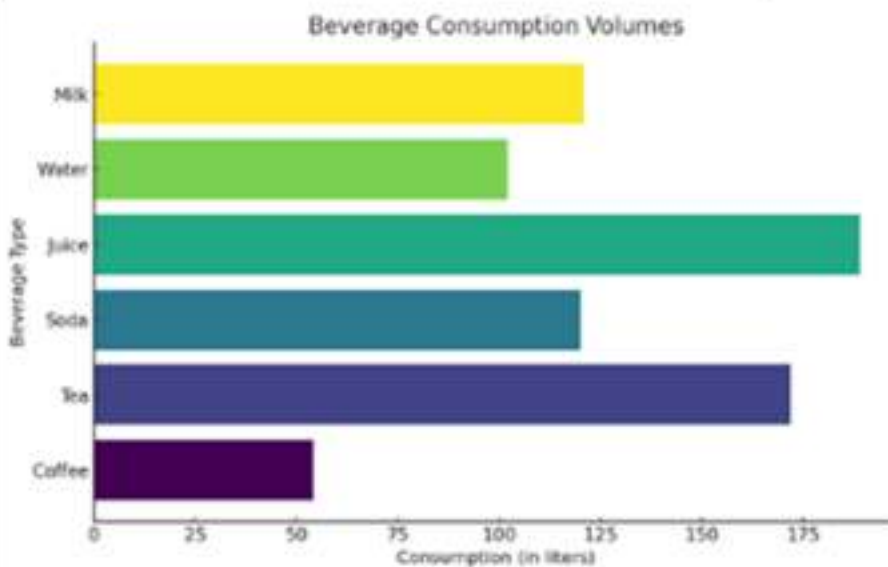
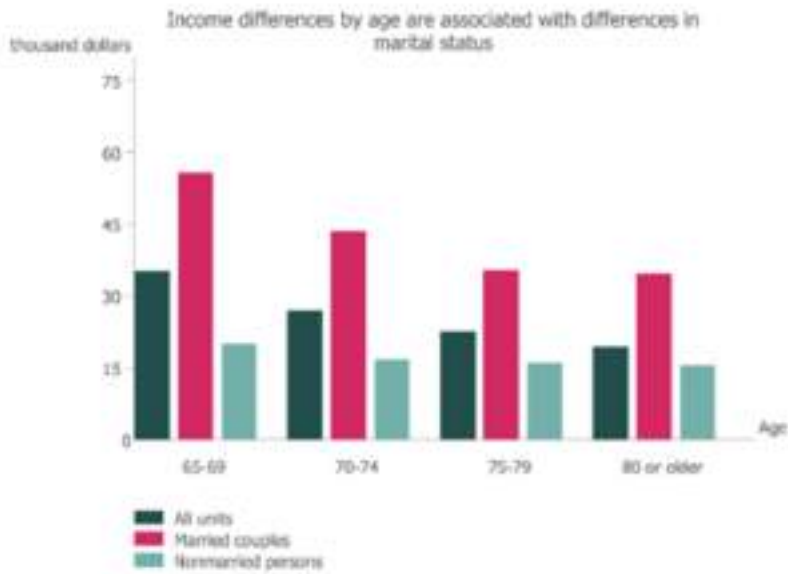
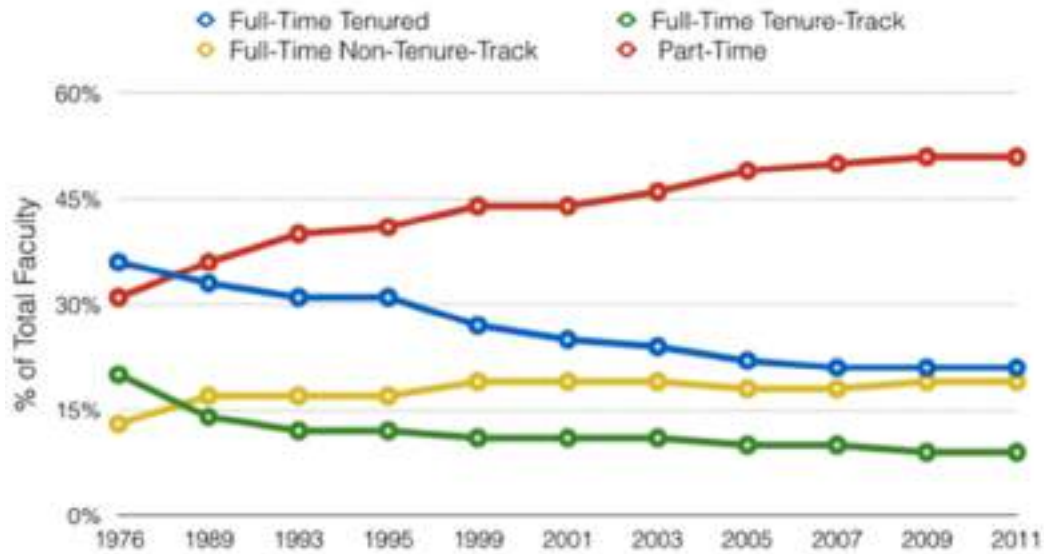
### Municipalities and Precipitation of Gariep Basin

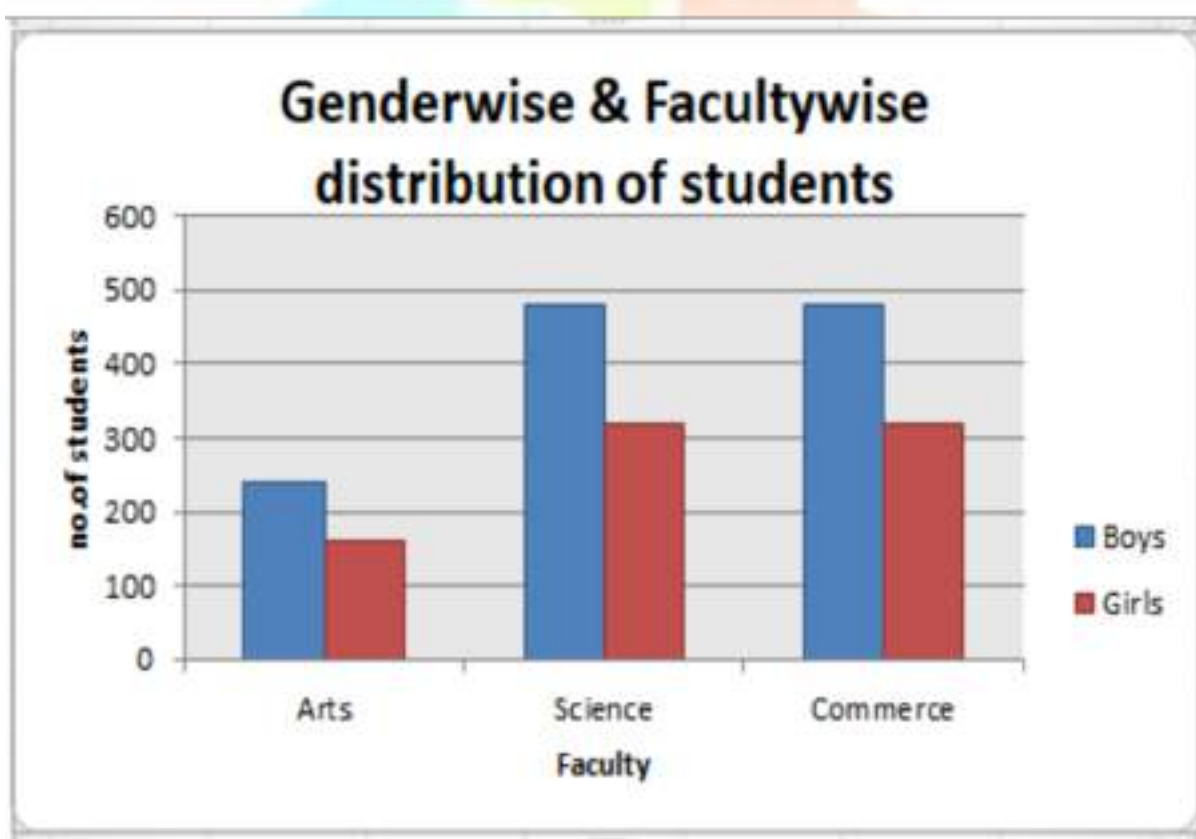
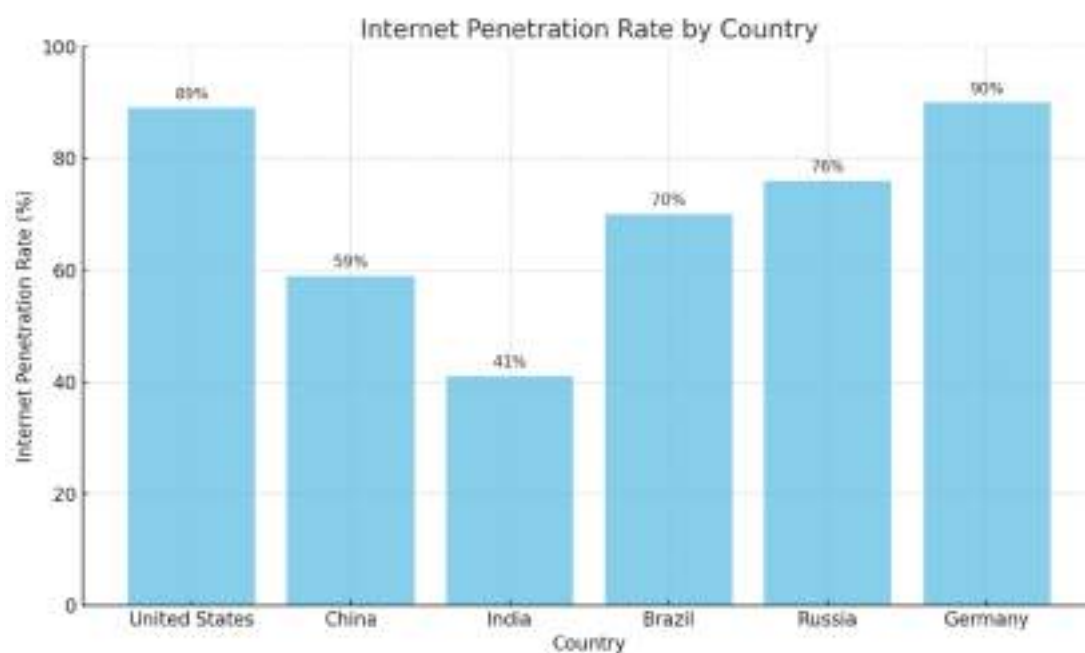


Journey made by	Germany	America	Canada
Car	73%	85%	91%
Bicycle	2%	1%	1%
Public transport	20%	10%	2%
On foot	2%	3%	5%
Others	3%	1%	1%

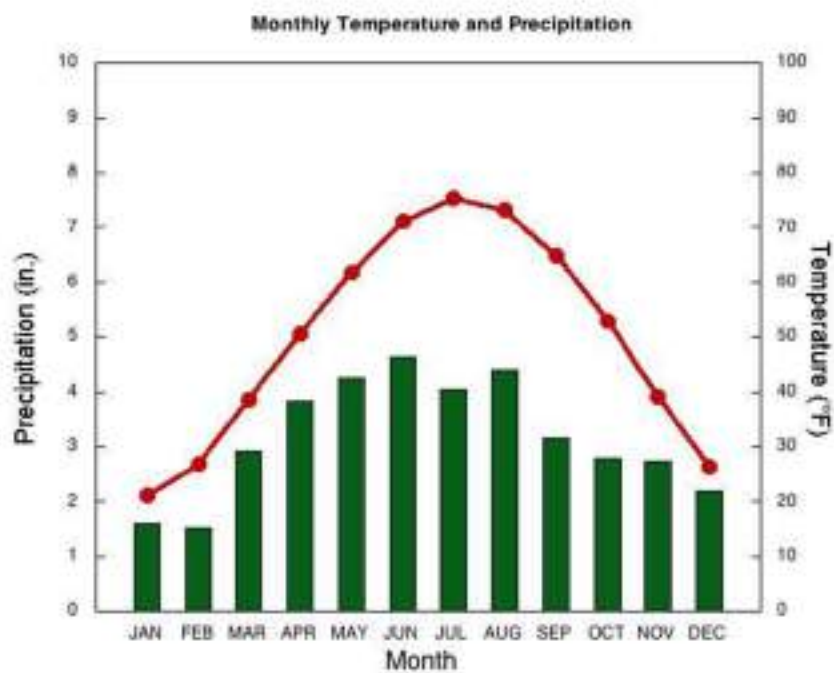


### Trends in Faculty Employment Status, 1976-2011





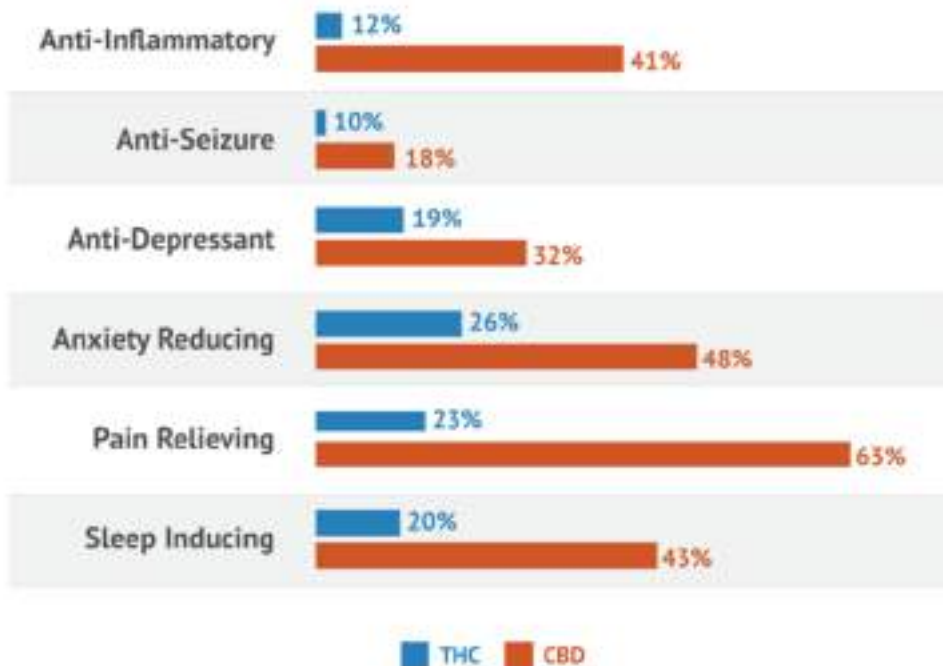




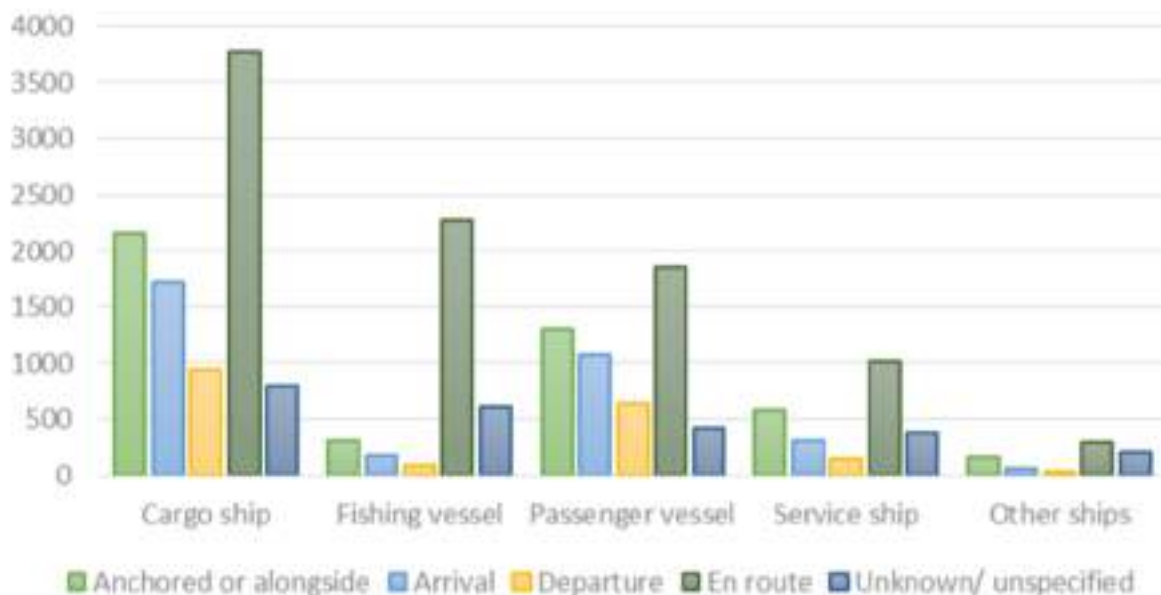




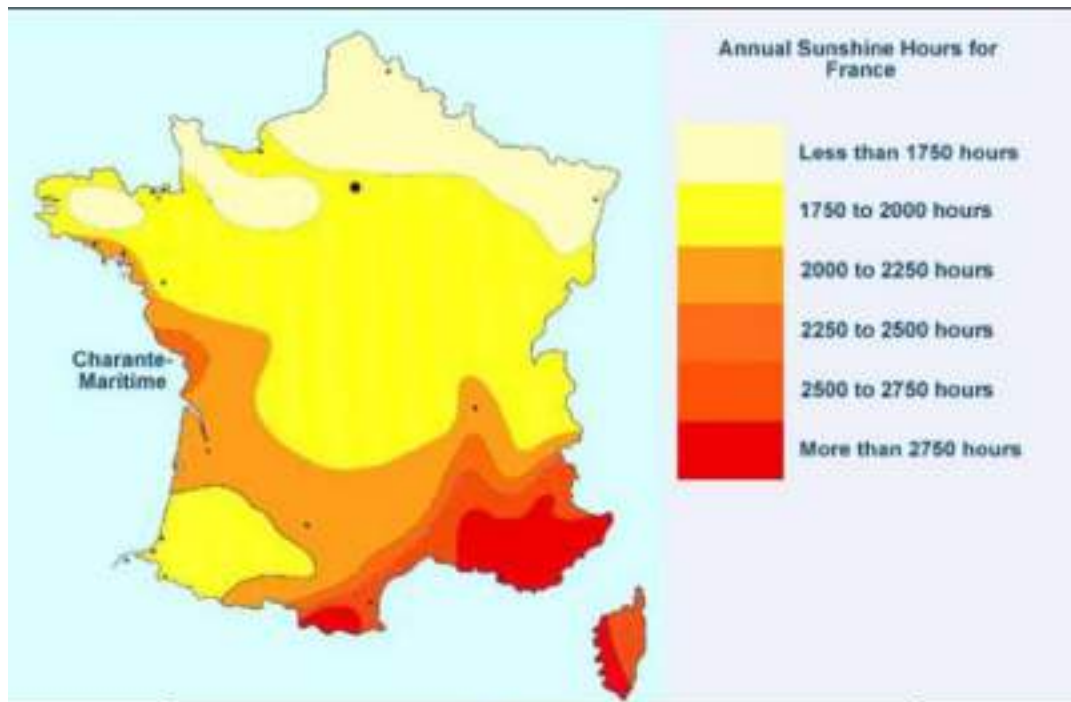
## Desired Effects When Using THC vs. CBD

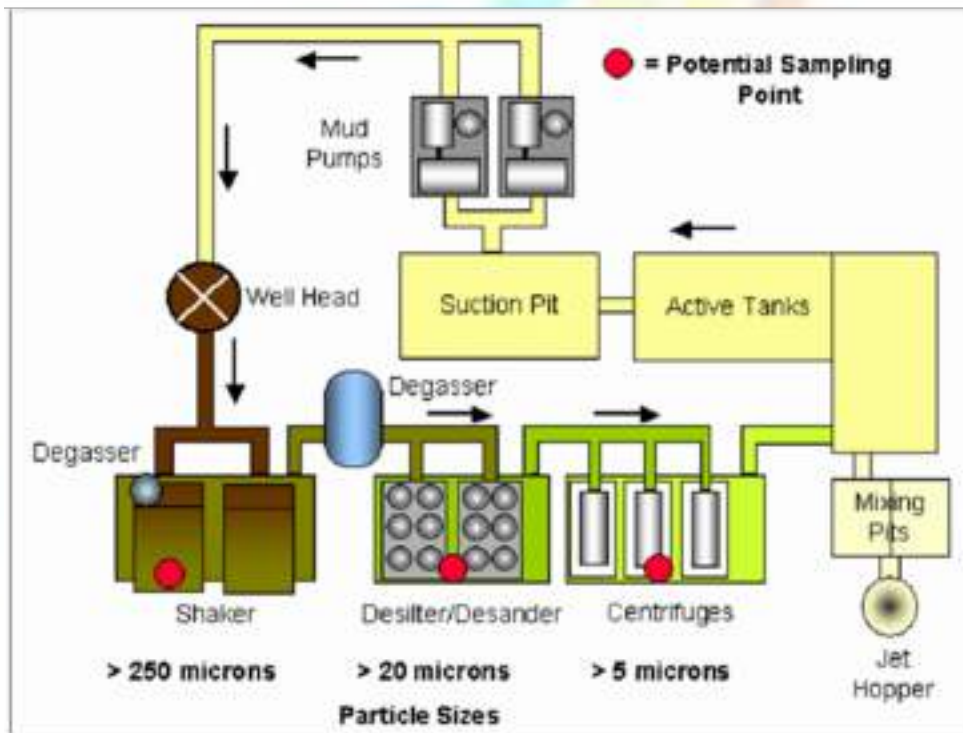
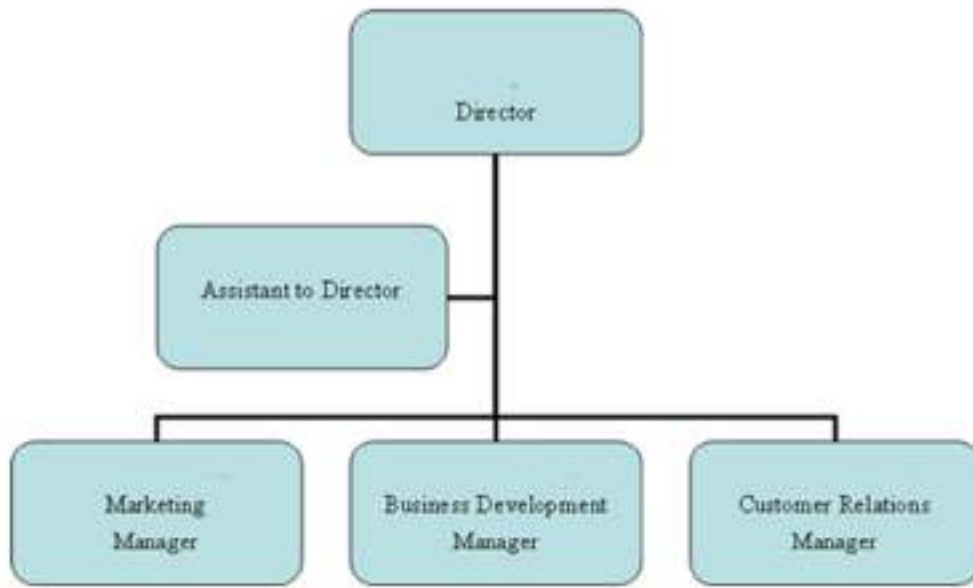


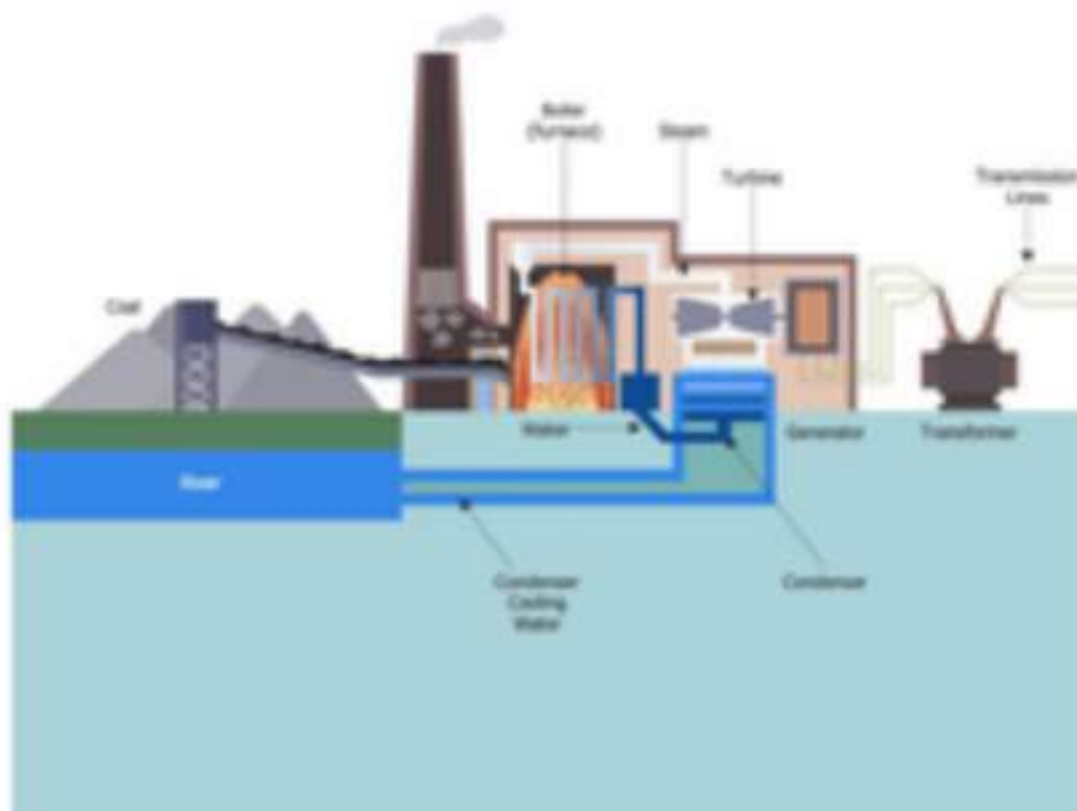
Distribution of voyage segments per ship type

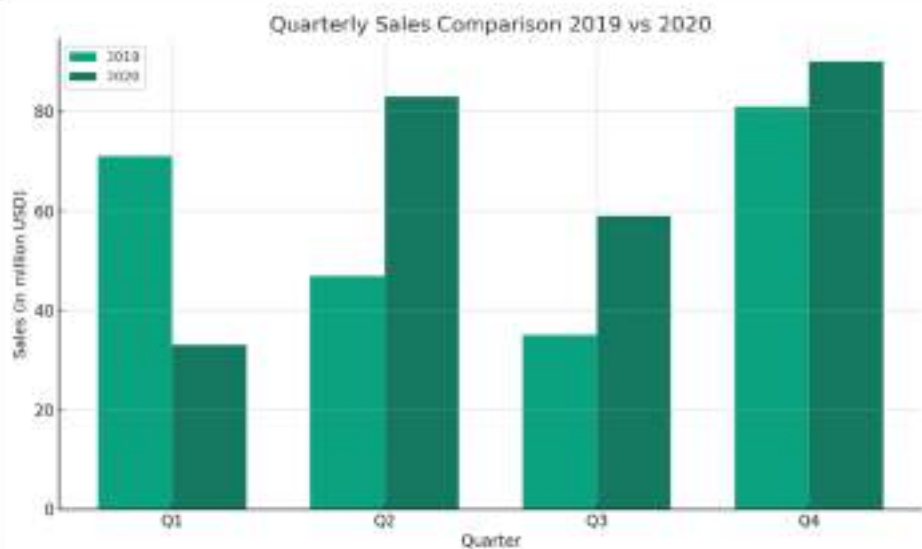
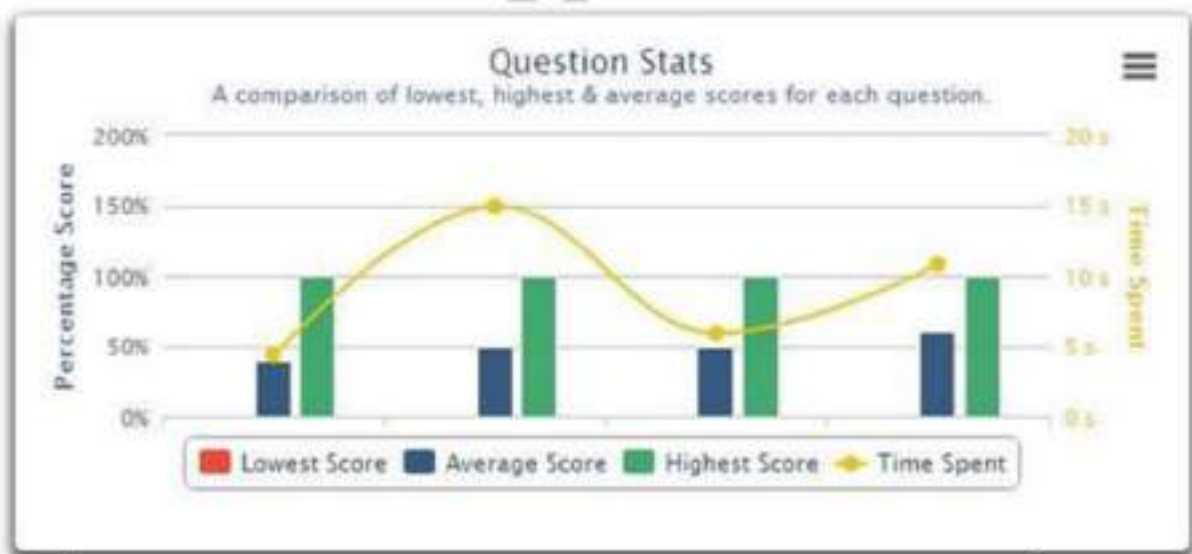




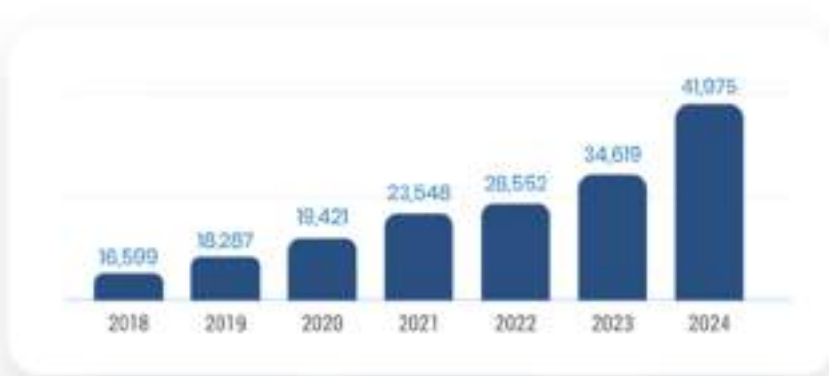






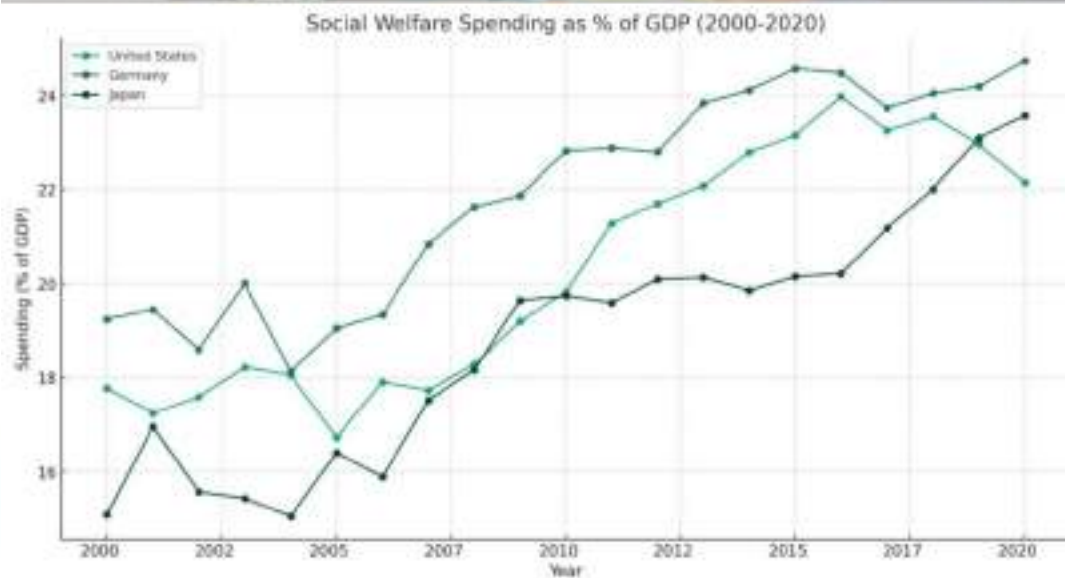


## GROWTH IN COWORKING SPACES WORLDWIDE





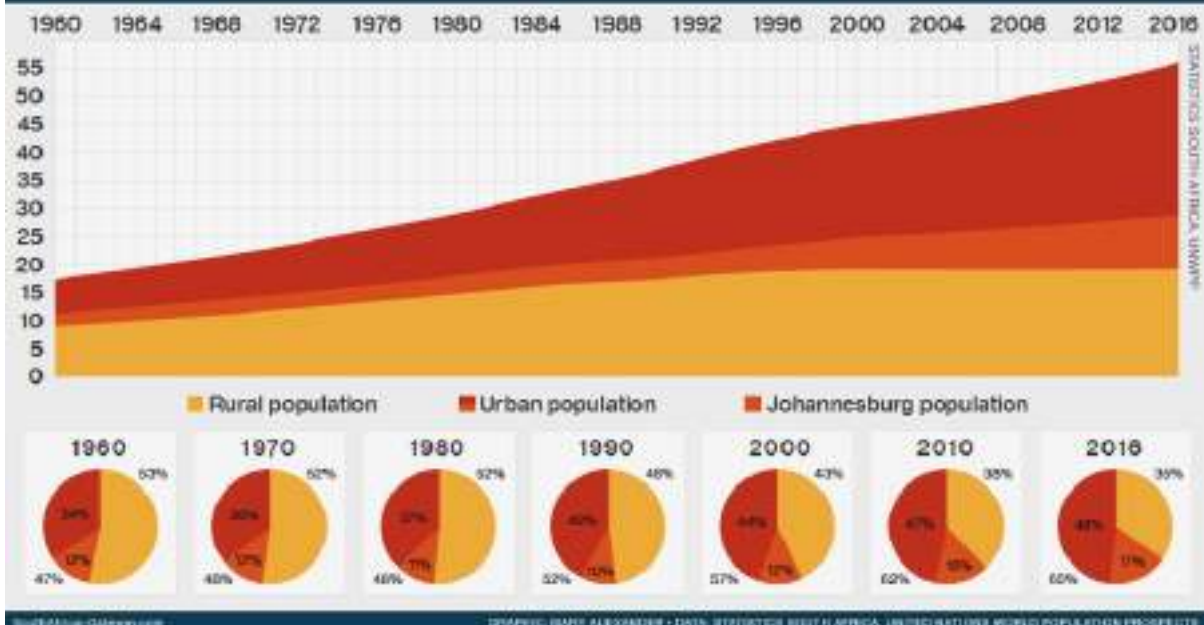








## South Africa's urban & rural population (millions) 1960 to 2016





# RETELL LECTURE

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## Sustainable Farming

As the world's population grows, ensuring everyone has access to sufficient, nutritious food is a critical challenge. Sustainable farming practices offer a promising solution to this challenge. Firstly, sustainable farming involves methods that are environmentally friendly, such as reducing chemical use, conserving water, and promoting biodiversity, these practices are not only crucial for protecting our environment but also for ensuring long-term agricultural productivity. Healthy ecosystems are more resilient and can provide the resources needed for continuous food production. Secondly, sustainable farming includes a focus on local production and distribution. By supporting local food systems, we can reduce the carbon footprint associated with long-distance transportation of food.

## Turing

Alan Turing, a figure whose groundbreaking work laid the foundations for modern computing and artificial intelligence. Alan Turing, often referred to as the father of modern computing, made significant contributions during World War II by developing techniques to break the German Enigma code. His work at Bletchley Park was crucial in deciphering coded messages, giving the Allies a decisive advantage. Post-war, Turing focused on developing one of the first designs for a stored-program computer and conceptualized the Turing Machine, a model that became fundamental in understanding the limits of algorithmic computation. His 1950 paper, "Computing Machinery and Intelligence," questioned whether machines could think, pioneering the field of artificial intelligence.

## Steve Jobs

Steve Jobs is a visionary who fundamentally changed the landscape of technology and innovation. His story is not just about the creation of Apple, but about the power of vision and perseverance. Steve Jobs co-founded Apple in a garage in 1976, revolutionizing the tech industry with products like the Macintosh, iPod, iPhone, and iPad. These innovations went beyond mere technological advancements; they transformed the way we communicate, work, and entertain ourselves. His keen eye for design and detail made technology not only functional but also aesthetically pleasing and user-friendly. Jobs' journey was not without challenges. He faced setbacks, including being ousted from Apple, but he returned in 1997 to save the company from near bankruptcy. His resilience and ability to innovate in the face of adversity are as inspiring as his technological achievements.

## Emotional Impacts

I suppose that it has always been the case for the majority of us that the first test of a work of art or literature or music is how much pleasure it gives us, and we don't want to bother with analysing because or how it has had such an emotional impact on us. It's always good to know what your pleasures are in the positive sense - and not as easy as some people think - as opposed to only really knowing what you don't like and complaining about it, though presumably there's some kind of pleasure to be had from that too. But now that you've chosen to take a course on the novel, I'm afraid that evaluating literature on the basis of how you feel about a book won't count as an intelligent critical response to the work being studied.

## Electrical Vehicle

This week I'd like to start by talking a bit about electric vehicles. Although we tend to think of electric cars as being something completely modern, they types of motorized vehicle. At the beginning of the twentieth century electric cars were actually more were in fact some of the earliest popular than cars more comfortable to ride in. However, as cars fuelled by petrol increased with an internal combustion engine as they were 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.

## Technology and Writer

By the middle of the 19th century, the fountain pen had been invented. It didn't need such constant refilling, which can account for the more flowing, discursive style of, say, Dickens and Thackeray, as well as their tremendous output. Then came the typewriter, whose purpose, once you got the hang of it, was to speed up the writing process and was therefore much favored by journalists. This, it seems to me, gave rise to a short-winded style characterized by short sentences. A short prose style, if you like. Dictating machines and tape recorders led, as one novelist complained, to writers becoming too conversational, rambling and long winded. Henry James, although he didn't use these machines, dictated his later novels and, well, some might agree with this accusation. Well, it looks as though we're going to have to leave word processors, computers and, of course, the way film and its narrative techniques

## Amelia Earhart

Amelia Earhart, a trailblazing aviator whose courage and determination broke barriers in the sky and paved the way for future generations. Her story goes beyond her achievements in aviation; it's a testament to the power of ambition and resilience. Amelia Earhart was not only the first female aviator to fly solo across the Atlantic Ocean, but she also set numerous flying records and championed the advancement of women in aviation. Her 1932 solo transatlantic flight was a remarkable feat that challenged the prevailing norms of her time and showcased her exceptional skills and bravery, despite facing numerous obstacles, including societal expectations and technical challenges, Earhart remained undeterred. Her pioneering spirit was evident in her tireless efforts to promote aviation and women's rights, making her a role model and an icon of empowerment. Tragically, Earhart's quest to circumnavigate the globe in 1937 ended in mystery, but her legacy endures.

## Reef

Now, I am thrilled to take you on a journey to explore the Great Barrier Reef, one of the most stunning and important natural wonders of our world. This vibrant underwater ecosystem is not just a spectacle of beauty but also plays a crucial role in the environmental health of our planet. The Great Barrier Reef, located off the coast of Australia, is the largest coral reef system in the world. It is home to an incredible diversity of marine life, including thousands of species of fish, corals, and other sea creatures. This biodiversity makes it a critical habitat for conservation and a natural laboratory for scientists studying marine ecology. However, the Great Barrier Reef faces significant threats, primarily from climate change. Rising sea temperatures have led to coral bleaching, endangering this vibrant ecosystem. The Reef's health is a crucial indicator of the overall health of our oceans and the planet.

## Tesla

Today, I am eager to talk about Nikola Tesla, a visionary inventor whose innovations went far beyond his time and continue to influence our lives today. Tesla's story is not just about his inventions; it's about his extraordinary imagination and perseverance in the face of adversity. Nikola Tesla, often overshadowed by his contemporaries, was a prolific inventor and a brilliant mind. He is best known for his development of the alternating current (AC) electrical system, which is still the standard for global power distribution. This system enabled the efficient transmission of electricity over long distances, revolutionizing the way we use energy. Tesla's contributions weren't limited to electricity. He had a hand in the creation of radio, wireless communication, and even concepts that laid the groundwork for modern-day robotics. His foresight in these fields showed a man thinking far ahead of his time. Nikola Tesla's legacy is a testament to the power of innovative thinking and relentless pursuit of scientific discovery. He reminds us that the ideas and creations of one individual can change the course of history.

## Freedom of Speech

To be a British, the first important thing is the freedom of speech that we have. It doesn't matter how small you are, how big you are, you are able to shout. I think security is very important. It's a society that has democracy as its basic value. There are people who come from a third world which wasn't a British colony where they didn't have democracy such way, they grew up under what I called a law lord. A system where the king or the local headman was the ruler of that particular area and he laid down the laws. And there are still parts of Africa as well as Middle East where the system still exists, they have to follow that ritual and that's it, they cannot argue against it. Well, in our British society, we can argue. As the American saying, we can fight the city hall and this is one thing which is very unique among the western civilization. Is that any voice is heard, however small is, however big is, we have the equal authority.

## Salt

Salt was a highly valued commodity in ancient times. Not because it made food taste nicer, but because of the way it could be used to preserve food. This meant that people were not so dependent on seasonal variations in what was available for them to eat - they could preserve what they produced and consume it as required. It also meant that food could be transported long distances. Salt was not easy to obtain and so prices for it were high. It was often necessary to transport it long distances and it is believed that one of the reasons for building some of the roads that led to the ancient city of Rome was to make it easier to bring salt to the city from various parts of the Roman empire. Roman rulers took financial advantage of the population's need for salt. When they wanted to raise money for some war or another, they raised the price of salt. Elsewhere salt was important too. In Africa, for example, caravans consisting of up to forty thousand camels are said to have travelled four hundred miles across the Sahara to transport salt to the inland markets of places like Timbuktu.

## Einstein's Insight

One of the most surprising insights from Einstein is that time is not what we intuitively think it is, right? Most of us have this sense that time for you is the same as time for me. And sometimes there is a cosmic clock that out there taking second after second after second, dragging it's all in exactly the same way into the future. Einstein found that if you and I are moving relative to each other, however, our clocks don't take off the time at the same rate. Our watches if they were once in sync if we're moving relatively to each other, they fall out synchronization. And what is that mean? All that means that what I consider to be happening right now at a given moment, from your perspective, that might be the past or might be the future? What you consider to be happening right now to me that may be the past or the future.

## Green Economy

The green economy could easily be the next Industrial Revolution. I mean energy is. you know, we all need energy. We do an annual report which studies much oil is left in the world and demand for oil. And with China, India, South America, Africa even, growing at the rate they're now growing, you know, we think that four or five years from now the demand for fuel will exceed supply. That could push prices, you know, through the roof. For that reason, you know, forget global warming for one minute just for that reason alone, we should be hurrying up, you know, saving on energy and creating alternative sources of energy. And I think those people who invest in this sector, hopefully, you know will get their thanks, and get the right; get their just returns.

## Infinity

Infinity is the perplexing idea which basically refers to something that grows without bound, no matter what number you might assign to something, infinity would be larger than that number. We make use of infinity in a number of ways in physics. We image that space conceivably could go on infinitely far. We imagine that in principle the universe could go on for an infinite matter of time. But in our calculations, if infinity turns up as the answer to something that directly measure with a piece of equipment, then we know that our calculation must be wrong. We have used that as a diagnostic over many decades to tell us if you find infinite popping out of your equations for something you can measure, you'd better go back, think about those equations, modify them in some way in order to get a finite answer is that's the only kind of answer that we could ever directly measure.

## Purpose of Museums

What museum professionals need to do - what they should be doing, is make their collections and programs work towards the purpose of education. So, whether that means having more hands-on exhibits, becoming involved with other community organisations they should be doing whatever it takes to think about their visitors, to engage people, to educate them, and in that way, they can be instruments of social change. If they have knowledge and understanding of the people who visit, and the people they want to come and visit, they can take this as a starting point for providing exhibitions and services that are relevant to people's lives.,

## Black Hole

This simulation shows what you might see. If you are orbiting a black hole. The light and position of background stars around the hole are distorted by its gravity and they seem to spin around. On the right the constellation Orion appears to approach the event horizon the boundary from which nothing can escape. Orion stars look like they become separated and get spun around. Once the hole has passed by Orion reappears on the left and looks normal again, Users can also experiment with different scenarios. This is what you might see if you were traveling towards a black hole with rocket engines slowing your descent. Another simulation mimics free fall into a hole, In the middle the light of the entire universe appears to be concentrated in a bright ring.

## Wind turbine

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 the 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.

### Mary Mallon

Mary Mallon, better known as Typhoid Mary, was the first person in the United States identified an asymptomatic carrier of the pathogen associated with typhoid fever. She was presumed to have contaminated 51 people, 3 of whom died, during her job as a cook. She was twice times forcibly separated by public health authorities and died after an overall of nearly 3 decades in isolation. From 1900 to 1907, Mallon worked as a cook in the New York City area for seven families. In 1900, she worked in Mamaroneck, New York, where, within two weeks of her employment, residents developed typhoid fever. In 1901, she moved to Manhattan, where members of the family for whom she worked developed fevers and diarrhoea, and the laundress died. Mallon then went to work for a lawyer; she left after seven of the eight people in that household ended up being ill. In 1906, she took a position in Oyster Bay, Long Island, and within two weeks 10 of the 11 family members were hospitalized with typhoid. She changed jobs again and similar occurred in three more households. She worked as a cook for the family of a wealthy New York banker, Charles Henry Warren. When the Warrens rented a house in Oyster Bay for the summer of 1906, Mallon went along too. From August 27 to September 3, 6 of the 11 people in the household fell victim to typhoid fever. The disease at that time was "unusual" in Oyster Bay, according to 3 medical doctors who practiced there.

### Epigenetic Research

Now I like the history and one thing I want to go over briefly is a history of epigenetic research and this is from my perspective now. I got into this field in the early 90s. and what I have here is plotted publications total publications and function of time here. and on a linear graph. so what I did for this is I wanted to show that basically up until around the year 2000. There's an inflection point right around two thousand five right in here where it looks like basically nothing really is happening much in the field of epigenetics. To the point where it's actually going vertical and a lot is happening in field of epigenetics. Now if you plot this rather than on linear paper semi-log paper. what you will find is that what I'm showing is an exponential growth curve for publications in the field of epigenetics, and that in the scientific community. There's a doubling of the epigenetics papers every one and a half to two years. Last year alone we put into publication summers between fifteen and twenty thousand papers which took us 15 years from 1992 to 2005.

### The Nobel Academy

For the last 82 years, Sweden's Nobel Academy has decided who will receive the Nobel Prize in Literature, thereby determining who will be elevated from the great and the near great to the immortal. But today the Academy is coming under heavy criticism both from the without and from within. Critics contend that the selection of the winners often has less to do with true writing ability than with the peculiar internal politics of the Academy and of Sweden itself. According to Ingmar Bjorksten, the cultural editor for one of the country's two major newspapers, the prize continues to represent "what people call a very Swedish exercise: reflecting Swedish tastes." The

Academy has defended itself against such charges of provincialism in its selection by asserting that its physical distance from the great literary capitals of the world actually serves to protect the Academy from outside influences. This may well be true, but critics respond that this very distance may also be responsible for the Academy's inability to perceive accurately authentic trends in the literary world.

### Brain\_Development

The key to forming strong brain architecture is what's known as "serve and return" interaction with adults. In this developmental game, new neural connections form in the brain as young children instinctively serve through babbling, facial expressions, and gestures, and adults return the serve, responding in a very directed, meaningful way. It starts very early in life when a baby coos and the adults interacts and directs the baby's attention to a face or hand. This interaction forms the foundation of brain architecture upon which all future development will be built. It helps create neural connections between all the different areas of the brain, building the emotional and cognitive skills children need in life. For example, here's how it works for literacy and language skills. When the baby sees an object, the adult says its name. This makes connections in the baby's brain between particular sounds and their corresponding objects. Later, adults show young children that those objects and sounds can also be represented by marks on a page. With continued support from adults, children then learn how to decipher writing and, eventually, to write themselves. Each stage builds on what came before.

### Hallucination and Personality

A mild form of hallucination is known as a disturbance, and can occur in most of the senses above. These may be things like seeing movement in peripheral vision, or hearing faint noises and/or voices. Auditory hallucinations are very common in schizophrenia. They may be benevolent (telling the subject good things about themselves) or malicious, cursing the subject etc. Auditory hallucinations of the malicious type are frequently heard, for example people talking about the subject behind his/her back. Like auditory hallucinations, the source of the visual counterpart can also be behind the subject's back. Their visual counterpart is the feeling of being looked or stared at, usually with malicious intent. Frequently, auditory hallucinations and their visual counterpart are experienced by the subject together.

### Climate Change

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.

## Taxonomy

Taxonomy is how scientists classify organisms into different groups based on the characteristics that they share. So, for instance, a good way to think about taxonomy is the US Postal Service. If we want to send a letter to someone, we first start off by addressing it to the nation they are in. By default, we usually assume that's America but it doesn't have to be in England or Costa Rica or Spain. You put their nation or their kingdom. Then within that kingdom, you address it to a slightly more specific level their states. So, for instance, South Carolina would be the same as a phylum. And within that state, you would address it to their city and then to their street number, the street they live on. Then you would address it to say their apartment complex and within that complex, you'd address it by their last name to their family and then finally their first name to the specific person you want to get it to and in that way we're able to weed out all the 400 million people we don't want to send our letter to in America and pinpoint the exact person we want the letter to reach. And in the same way, scientists use a taxonomy chart to pinpoint a living creature and organism and how it relates to everything else in the world.

## Arctic and Antarctic

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 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.

## Earthquake and Fault

Today, we will discuss the relationship between the fault lines in the Earth's crust and an earthquake. This dislocation of the rock occurs from the Earth's surface, seven kilometers to several hundred kilometers vertically down to the crust. The earthquake's focus is called epicenter which is vertically beneath the interior of the Earth's crust and the energy releases and transfers through epicenter. The faults are the fracture on the Earth's crust. The position of the epicentres can be identified by the faults' maps, looking down from the center of the Earth. It will result in seismic wave which is decreased as it moved away from the epicenter.

## Former Civilization

The first thing I want to argue is that the former civilization is running into a pretty profound crisis in its relationships with the rest of nature, which we have been depending on for survival and for flourishing. And this is the most widely and well-recognized fact in relation to climate change and greenhouse gas emissions. Because it's interlocked with a number of other crises as the crisis endangers access to fresh water and to food. Biodiversity loss on a huge scale, and associated

problems of human inequality are also possible to happen. All those together have to be looked at as an interconnected set of really deep, profound crises.

### Saturn Rings

Saturn's rings are the most spectacular planetary ring. Consisting of countless particles whose diameters range from microns to meters; these rings orbit the Saturn. In 1610, Galileo was the first man who spotted Saturn's rings. With his 20-power telescope, Galileo might have mistaken Saturn's gaseous ring to surmise that the Saturn system was formed of one planet with two moons as satellites. In 1675, Giovanni Cassini determined that Saturn's "ring" was actually composed of sub-rings with gaps among them. So, the number of Saturn's rings are more than 10. Other planets like Venus, Jupiter, Neptune and Uranus also have rings but not as many as Saturn have.

### Human Behaviour

human behaviour is affected by internal and external factors. 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.

### Large Hadron Collider (LHC)

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.

### Language Learning

It is wrong, however, to exaggerate the similarity between language and other cognitive skills, because language stands apart in several ways. 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. By contrast, not everyone becomes proficient at complex mathematical reasoning, few people learn to paint well, and many people cannot carry a tune. Because everyone is capable of learning to speak and understand language, it may seem to be simple. But just the opposite is true-language is one of the most complex of all human cognitive abilities.

### Innovation & Invention



Innovation equals invention often people mistake these two things for the same thing. Innovation equals invention, they are not. Innovation is something that generates value for the world. It makes something faster, better, cheaper. An invention is an idea, a technology, a patent. In and of itself, it does not generate value. So, these two are not the same thing. So, innovation equals invention times commercialization. So, and when we look at this equation of innovation something of value, it requires a new idea and then it requires someone or some organization that is going to commercialize that idea.

### Sound Speed and Light Speed

The speed of sound in twenty degrees celsius is three hundred and forty-three meters per second, but the one of light in vacuum is three times ten to the eighth power meters per second. The speed of sound in 20°C is 343 meter per second, and the speed of light in vacuum is three hundred million meters per second. Why do we always see the lightening before we hear the thunder? It's because the speed of light travels much faster than sound.

### Dissociation of Personalities

Morton Prince was an American physician and psychologist, his book 'Dissociation of a Personality' was the best-seller at that time. It tells a story of Miss Christine Beauchamp, who was suffering from MPD (Multiple Personality Disorder). Miss Christine Beauchamp has several types of personalities, namely B1, B2 and B3. There was hidden memory in these three personalities, with hallucination among them. Miss Beauchamp was B2. B2 knows about B1, B3 knows both B1 & B2, but B1 knows nothing about B2 or B3. The strongest personality accounts for most of the time and it will take over the others and become the main personality at the end. This case and theory gives great help to crime investigation.

### Governmental Blogging

We normally see blogging as a two-way interaction, in which the blogger/author creates the content and the readers interact with or challenge the author. But the case will be much more difficult when it comes to governments, such as the White House. Because people will become coarser and ruder online towards their governments, especially in comment areas. Thus, governments' blogs may go wild and chaotic. And then governments will have to administrate the comments. Once the government starts to impose harsh administration on comment areas, citizens may find the government manipulating what should be said and what should be shown, which contradicts the original intention.

### Robots and Human

Why is it difficult to make a robot like a human being? Why cannot robots finish the work easily like human beings? For some tasks, it is easy and simple for humans to complete, but it is very difficult to ask a robot to do what we want because humans and robots have different recognition functions. For example, considering the insights, it is hard for robots to recognize colors because they do not have sensory mechanisms. Artificial intelligence scientists have to devise a sensor that is implanted to robots to enable them to recognize different colors. The sensor has a camera on it to capture pixels, and then will translate the pixels into an image, which is not as easy as expected.

## Housing Affordability

The impact on young Australians who are interested in buying a home of their own has been very significant. 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.

## Animal Behaviour

Understanding why animals do what they do. There are lots of other reasons for studying animal behaviour. 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.

## Performance of Genders

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.

## Globalization

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

## Australian Cities

Australia's location is important for the world's exports, and its international trade is also important. Since Australia has a large territory with vast, uninhabited areas, all towns are scattered around. The Australian people are mainly living in five cities: Melbourne, Sydney, Perth and Brisbane and Adelaide. The most special one is Perth, which is one of the most isolated cities in the world. However, this does not affect its state to be one of the largest cities in Australia. Most large companies, like the two leading companies, Telstra and Qantas, they are both based in Perth.

## Creativity

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

## Library Introduction

There are many functional areas and services in the library. You'll see the service desk after entering the library and you can have these services at the service desk. There are computers on each floor, by which you can gain access to the internet and check emails and library catalogues. Follow the orange signs and you will find printers. Then, follow the instructions to use them. Remember to bring student cards. You have to use printers with your card. If necessary, you can ask the staff at the front desk to help you.

## Biological Forgetting

People forget things every day including experiences, feelings and thoughts. We call this process biological forgetting. Remembering is hard for people, and people try to overcome biological forgetting. Human' memory is not fixed, but it can be reconstructed and shaped by the past. Since ancestors, we have always been trying to improve our memory.

## Soot

Soot, which comes from combustion of many different things, is black so it's a strong absorber. In fact, it's second only to CO<sub>2</sub> in terms of warming, so it's actually ahead of methane, which you hear a lot about. The interesting thing about soot and aerosols' impact on climate is that their lifetimes are so much shorter. So, if we can reduce the soot we can make changes within months versus tens of years. It's not to say we should ignore the CO<sub>2</sub> and the greenhouse gases but it could buy us some time while we actually do the right strategies to reduce the greenhouse gases.

### Bilingual Parents

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.

### Old Paris

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 being created 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 residents whose houses were simply razed, and whose neighbourhoods disappeared. What is done cannot usually be undone, especially when buildings are torn down.

### Listening Skills

The most important factor in communicating more effectively is actually the opposite of talking. It's improving your listening skills. You must learn to start asking questions and listen attentively without interruptions. As a rule, you pay attention to people you most value. When you pay close attention to another person when they are talking, you signal to that person that you very much value them and the content of their comments. This is very flattering to another person and it causes them to respond warmly to your attentiveness. The major reason that most people have poor listening skills is that they're busy preparing a reply while the other person is still speaking. In fact, they're not even listening closely to what the other person is saying. They are thinking of other things and formulating their comments to be ready as soon as the other person takes a breath. Effective communication requires that you face the other person directly, lean slightly forward and hang on to every word, listen as though there were nothing else in the world more fascinating to you than what the other person is saying.

### Sleep Investment

The sleep associated consequences are more significant than you may realize. For example, in the spring, when we lose one hour of sleep, there is a subsequent 24% relative increase in heart



attacks. In contrast, in the fall, in the autumn, when we gain an hour of sleep, there is a 21% reduction in heart attacks. Isn't that incredible? I should also note that we see similar changes in things, such as road traffic accidents, strokes, and tragically, suicide rates as well. In fact, even the economy suffers with certain stock market returns, taking a downswing following the shift to daylight saving time and that one hour of lost sleep. This is how fragile our brains, our bodies, and even our societies are, when it comes to sleep loss. But said more positively, even just small increases in sleep can have immediate as well as long-term health benefits.

## Cheese

As early as 8000 BCE, the earliest Neolithic farmers living in the Fertile Crescent began a legacy of cheese-making almost as old as civilization itself. The rise of agriculture led to domesticated sheep and goats, which ancient farmers harvested for milk. But when left in warm conditions for several hours, that fresh milk began to sour. Its lactic acids caused proteins to coagulate, binding into soft clumps. Upon discovering this strange transformation, the farmers drained the remaining liquid - later named whey - and found the yellowish globs could be eaten fresh as a soft, spreadable meal. These clumps, or curds, became the building blocks of cheese, which would eventually be aged, pressed, ripened, and whizzed into a diverse cornucopia of dairy delights. The discovery of cheese gave Neolithic people an enormous survival advantage. Milk was rich with essential proteins, fats, and minerals. But it also contained high quantities of lactose - a sugar which is difficult to process for many ancient and modern stomachs. Cheese however, could provide all of milk's advantages with much less lactose. And since it could be preserved and stockpiled, these essential nutrients could be eaten throughout scarce famines and long winters.

## Bee Language

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.

## Storytelling

In the realm of film, we find a universal language that transcends borders and connects hearts. Cinema is not just entertainment; it's a mirror reflecting our societies, a canvas for our dreams, and a portal to diverse worlds. Its power lies in its ability to evoke emotions, challenge perceptions, and inspire actions. Furthermore, the impact of cinema extends beyond the screen. It stimulates economies through job creation and tourism, as iconic movie scenes make locations into landmarks. It also preserves culture and history, capturing the essence of an era for future generations to witness. As we, the youth, forge our paths, let's recognize the profound influence of cinema.



## ANSWER SHORT QUESTIONS

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What is the term for a large painting or decoration, created either directly on a wall or ceiling or on a canvas attached to the wall?

Answer: Mural

What do we call the long, orange thing that grows underground?

Answer: Carrot

What's the grey thing in the sky when it's about to rain?

Answer: Cloud

What do we call a person who writes and checks financial reports?

Answer: Accountant / Auditor

What do we call the type of energy that uses uranium to generate electricity?

Answer: Nuclear energy / Nuclear power

What do we write on blackboards with?

Answer: Chalk

What is the opposite of groom?

Answer: Bride

What do we call painting, photo, photography and drawing collectively?

Answer: Picture / art / arts / artworks / visual arts

What do we call the cool area under a tree?

Answer: Shade

What do we call a liquid that is used for washing hair?

Answer: Shampoo

What do we call a person walking in the street or in a crosswalk?

Answer: Pedestrian

What do you call a country where there is no king but a president?

Answer: Republic

What do you use to dry your body after a shower?

Answer: Towel

What do we call the opposite to the end of a story or a book?

Answer: Prologue

What do you call the money you pay to use a road or a bridge?

Answer: Toll

What do we call a person walking in the street or in a crosswalk?

Answer: Pedestrian

What do we call the component of a camera that should be developed in darkness?

Answer: Negative / film

What are breakfast, lunch, and dinner examples of?

Answer: Meal

What do we call a collection of large quantity ?

Answer: Bulk

What do we call the state of believing in oneself?

Answer: Confidence / confident / self-confidence / self-confidence

What subject involves the study of the Periodic Table?

Answer: chemistry

How many days does it take for a full moon to occur?

Answer: Thirty



What do you use in a non-verbal communication with expressions to convey a message effectively?

Answer: Body language / sign language

What is the process of removing abnormal heartbeat?

Answer: Defibrillation

How do you call a student that has finished his first year?

Answer: Sophomore

What do we call the behavior of not buying products from an exact company as a way of protesting?

Answer: Boycott

What do you call a place with lodging, food, and other services for travelers?

Answer: Hotel

What is the term for a large, luxurious car, often driven by a chauffeur?

Answer: Limousine

What do we call a small soft creature with a hard round shell on its back that moves very slowly?

Answer: Snail

What do we call a document issued by a country to its citizens allowing them to travel abroad?

Answer: Passport

What is the term for a piece of land surrounded by water?

Answer: Island

What is the name for the shaking of the earth's surface caused by movement of the earth's crust?

Answer: Earthquake

What is the term for the measure of the amount of water vapor in the air?

Answer: Humidity

What do we call the sudden occurrence of intense high winds, often with rain, snow, or hail?

Answer: Storm

What is the term for a large crack or opening in the earth's surface?

Answer: Crevice

What is the term for an intense snowstorm with high winds and low visibility?

Answer: Blizzard

What is the term for a prolonged period of abnormally low rainfall?

Answer: Drought

What is the term for a journey, especially a long one, involving travel by sea or in space?

Answer: Voyage

What is the term for a steep-sided, often circular, depression in the ground formed by volcanic activity?

Answer: Caldera / crater

What do we call the average weather conditions in an area over a long period?

Answer: Climate

What is the term for a formation of troops, ships, or aircraft?

Answer: Squadron

What do we call a short trip taken for pleasure, usually lasting a day?

Answer: Excursion / expedition

What do we call the area of low land between hills or mountains, often with a river running through it?

Answer: Valley

Where can people go to borrow books?

Answer: Library / bibliotheca

What do we call the process of wearing away soil and rock by water, wind, or other natural agents?

Answer: Erosion

What do you call the gradual increase in the overall temperature of the Earth's atmosphere generally attributed to the greenhouse effect?

Answer: Global Warming

What is the name of the atmospheric layer closest to Earth's surface, where most weather occurs?

Answer: Troposphere

What is the name of the current geological epoch, starting from the end of the last Ice Age?

Answer: Holocene / Recent

What is the term for an extended period of armed conflict between nations or states?

Answer: War

What do you call the seasonal wind of the Indian Ocean and southern Asia, blowing from the south west in summer and from the northeast in winter?

Answer: Monsoon

What do you call the vehicle used in combat with heavy armor and typically armed with a large cannon?

Answer: Tank

What do you call the art of making twodimensional images move, often used in cartoons and films?

Answer: Animation

What is the term for a symbol that represents an unknown quantity in an equation?

Answer: Variable

What do we call a mathematical sentence that shows the relationship between quantities that are equal?

Answer: Equation

What do you call a four sided figure with opposite sides parallel and equal in length?

Answer: Rectangle / parallelogram

What do we call the sum of the lengths of the sides of a polygon?

Answer: Perimeter

What do we call the number that is obtained by multiplying a number by itself?

Answer: Square

What do we call the area of art concerned with arranging and composing dance movements and patterns?

Answer: Choreography

What is the term for the distance from the center of a circle to any point on its circumference?

Answer: Radius

What do we call the military forces that conduct operations on water?

Answer: Navy

What is the name for a three-dimensional work of art, typically created by shaping or combining materials?

Answer: Sculpture

What is the term for a fast, rough drawing made to capture the basic elements and structure of a scene?

Answer: Sketch

What is the term for the art of making objects from clay?

Answer: Ceramics / pottery

What do we call a drawing or painting of a person, especially one showing only the face or head and shoulders?

Answer: Portrait

What is the mathematical term for a quantity representing the chance of a particular outcome in an uncertain situation?

Answer: Probability

What do you call a part of a line that has a fixed starting point but no end point?

Answer: Ray



What is the term for the shape formed by the set of all points in a plane that are a certain distance from a given point?

Answer: Circle

What do we call the ground forces of a military organization?

Answer: Army

What is the term for a soldier who serves on foot?

Answer: Infantry

What is the term for the middle number in a sorted list of numbers?

Answer: Median

What do we call a tower-like structure providing ventilation?

Answer: Chimney

What do we call a horizontal structural member that supports the load over an opening such as a door or window?

Answer: Lintel

What is the term for an outdoor area for dining or relaxing that is adjacent to a building?

Answer: Patio

What do you call a room or building equipped for physical exercise, gymnastics, and other indoor sports?

Answer: Gymnasium / Gym

What is the name for a structure consisting of a roof supported by columns or piers, usually attached to a building as a porch?

Answer: Portico

What do you call the front face of a building, especially an imposing or decorative one?

Answer: Facade

What is the mathematical term for a number less than zero?

Answer: Negative

What do you call a number that cannot be divided by two without leaving a remainder?

Answer: Odd

What is the term for a number that can be divided by two without a remainder?

Answer: Even

What do you call the distance around a circle?

Answer: Circumference

What is the name for a large, open interior area within a building, often featuring a glass roof?

Answer: Atrium

What is the term for the healthcare professional who examines and treats disorders of the feet?

Answer: Podiatrist

What do we call the medical procedure of cutting into the body to repair or remove damaged or diseased parts?

Answer: Surgery

What is the name of the transport system using trains in a city, often underground?

Answer: Subway

What do we call the electronic device used to maintain a comfortable temperature indoors?

Answer: Air Conditioner

What do we call the sport where two teams try to ground a ball on the other team's side of the net?

Answer: Volleyball

What sport involves two teams trying to score by throwing a ball into a hoop?

Answer: Basketball

What is the name of the device used to heat food quickly using microwave radiation?

Answer: Microwave Oven

## WRITING

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# SUMMARIZE WRITTEN TEXT

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## Maasai Olympic

The Maasai people of East Africa have long been celebrated for their distinctive culture and traditions. One of the most unique and transformative events in recent Maasai history has been the introduction of the Maasai Olympics, an initiative that combines sportsmanship with the preservation of cultural heritage.

Traditionally, Maasai warriors gained honor and prestige through acts of bravery, such as lion hunting. However, as wildlife conservation efforts intensified and lion populations declined, there was a growing need to find alternative ways to demonstrate valor and leadership within the community. In response to these challenges, the Maasai Olympics was born. This biennial event showcases athletic skills in sports like running, spear throwing, and high jump, all inspired by traditional warrior training. The twist is that instead of hunting lions, participants now compete to protect them, as the Maasai people have recognized the importance of wildlife conservation.

The Maasai Olympics not only provides a platform for young warriors to display their physical prowess but also promotes environmental conservation and raises awareness about the importance of preserving Africa's wildlife. It sends a powerful message that cultural heritage and wildlife conservation can go hand in hand.

This unique event has not only gained attention within Maasai communities but has also garnered international recognition. It exemplifies how innovative approaches can honor tradition while adapting to the changing times. The Maasai Olympics serves as an inspiring example of how culture, sports, and environmental stewardship can intersect to create a positive impact in the modern world.

In conclusion, the Maasai Olympics represents a significant shift in Maasai culture, where the preservation of tradition and wildlife conservation coalesce in a powerful and meaningful way. This event showcases how indigenous communities can adapt and thrive while maintaining their cultural roots and contributing to global conservation efforts.

## Indigenous Communities

Climate change is one of the most pressing global challenges of our time, and its effects are felt disproportionately by indigenous communities around the world. These communities, often deeply connected to their environment and traditions, are facing unprecedented challenges due to shifting weather patterns and environmental disruptions.

Historically, indigenous peoples have lived in harmony with nature, utilizing their knowledge of the land and its resources to sustain their way of life. However, the rapid pace of climate change has disrupted these delicate balances. Rising temperatures, altered rainfall patterns, and more frequent extreme weather events are causing food shortages, water scarcity, and damage to traditional dwellings.

Research indicates that these environmental changes are not only threatening the physical well-being of indigenous peoples but also eroding their cultural heritage. Traditional knowledge, passed down through generations, is at risk of being lost as younger generations are forced to adapt to a changing world.



Indigenous communities are actively participating in climate-related events and initiatives, raising awareness about the unique challenges they face and advocating for sustainable solutions. Their deep understanding of the environment and innovative approaches to adaptation can offer valuable insights for the broader global community in addressing climate change.

In conclusion, climate change poses a profound threat to indigenous communities, impacting their way of life, culture, and heritage. Acknowledging their resilience and involving them in climate mitigation and adaptation efforts is not only an ethical imperative but also an opportunity to learn from their wisdom in facing this global crisis.

## Lunar Eclipse

There are always headlines when a blood moon is coming, but they don't always explain what a blood moon is — and how it differs from a lunar eclipse. A blood moon is the same thing as a total lunar eclipse (one of three types of lunar eclipses that can be seen from Earth). Whenever you read a news story about an upcoming blood moon — or see beautiful pictures of one that has just happened — the scientifically accurate term for what you're seeing is a total lunar eclipse.

To help make more sense of the blood moon phenomena, it helps to understand how eclipses work.

An eclipse occurs any time one celestial body (such as Earth or the moon) passes in between the sun and another celestial body and casts a shadow on that other object. In the case of a lunar eclipse, Earth passes between the sun and the moon and our shadow is cast onto the moon.

However, it's even more complex: There are two different parts to a shadow. There's the penumbra, the partially shaded outer region of the shadow, and the umbra, the fully shaded inner region of a shadow. The penumbra is the lighter area that causes your shadow to appear fuzzy on the ground on a sunny day; the umbra is the darker area of your shadow.

Given all that, we can now make sense of the kind of lunar eclipse that creates a blood moon or a total lunar eclipse. When the moon passes completely into the Earth's umbra, it is in our shadow and appears with a reddish tint.

## Yellow Stone

Most Americans know about Yellowstone National Park, the first national park in the US, which was established in 1872. Probably less well-known is the fact that Native American tribes were removed from the land to make the park possible.

Yellowstone is not an anomaly. Many Native American tribes once lived on sprawling ancestral lands that the U.S. government either forcibly took from them or purchased through treaties whose provisions were subsequently nullified. Some of this land later became part of the nation's 400-plus national parks and sites, with the US government providing the historical interpretations. These interpretations, however, either downplayed or ignored the Indigenous point of view.

Creating tribal national parks allows Indigenous people to be in charge of the narrative. Simply put, tribal national parks are national parks created on tribal lands. The first of these tribal national parks was Frog Bay Tribal National Park in Wisconsin, opened by the Red Cliff Band of Lake Superior Chippewa.

a in 2012. The park is on the state's Bayfield peninsula, across from the famous Apostle Islands National Lakeshore.

Several more tribal national parks are in the works, as Indigenous people seek to preserve and protect their land, while creating recreational opportunities for their members and others, but there's another important reason for these parks' creation: They allow the tribes to tell their own stories.

## Muscle Knots

The knots you detect in your muscle, which may feel as small as a marble or even as large as a golf ball, are called myofascial trigger points. The fascia is the thin layer of connective tissue that surrounds the muscle.

When your muscle gets damaged, even just a little, it can cause inflammation in the bands of muscle and the fascial layer above. That clump of inflamed tissue is a myofascial trigger point. The little lumps are typically tender to the touch and can limit your range of motion or lead to pain during various movements. Muscle knots don't show up on medical imaging scans, and researchers are still trying to figure out the exact physiological mechanisms within the muscle that cause this reaction.

Myofascial trigger points tend to develop when a muscle is irritated by a new or more-strenuous-than-

usual repetitive motion. For example, you may develop knots in the muscles you stressed the most during a particularly intense day of exercise. They can also crop up if you introduce a new movement pattern to your daily workout.

You don't need to be a gym rat, though, to be familiar with muscle knots. For instance, if you are consistently hunched over a computer all day, you may notice knots developing in your upper back and shoulders. Most people wouldn't consider sitting at a desk strenuous, but holding one position for hours at a time places stress on your muscles.

## Fiber

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 labelling 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.

## Solar Panels

The renewed interest in solar panels on cars is less about the panels themselves becoming better, and more about the fact that hybrid and electric cars, and their infrastructure, are better. In other words, it's easier and more affordable than ever for consumers to go buy a readily available electric or hybrid car, and these cars are more efficient, easier to charge, and have fewer compromises overall than EVs and hybrids of just a couple generations ago. That means there are more people who can take advantage of solar power to run a car, and that solar power will literally go farther than it would have in the past.

That said, solar panel technology has improved, too. It's more affordable and easier for most consumers to incorporate into a home or garage update, but solar-powered cars still have a long way to go.

In fact, it's unlikely that we'll see a car that can be fully powered by a solar panel integrated into the roof, because a panel that size is just too small to produce the power needed. EnergySage, a company that helps consumers research and shop for solar technology, estimates that a car completely covered in solar panels could only power an electric car for a maximum of 25 miles a day, and that's assuming weather and other conditions are absolutely perfect. Yet, EnergySage argues a solar panel that gives a car a boost of just a few miles a day is still worth the investment.

## Erasing Memories

Throughout our lives, we make many memories, some good and others not so pretty. For the ones that we wish we could forget, there may be a way to achieve this. Erasing memories is possible, but you must be willing to go seriously out of your way to achieve your goal.

Scientists recently discovered that our memories are not as permanent as we thought. Research on both animals and humans has shown that using drugs like propranolol, a high blood pressure medication, can rewire our brains to the point where we lessen the effects of emotional memories. This research is backed by the discovery that every memory is locked in different connections in your brain. When you form a memory, proteins stimulate specific brain cells to help create new connections.

For instance, if bikes scare you, it is because you, or someone close to you, had a bad experience with one. As you take your prescription, you will only be scared of bikes without defaulting to the bad experience. Research may also suggest that a placebo (usually a sugar pill that the user believes is the real drug) can alter behaviors that may dissipate the psychosomatic effects of a bad memory.

Whether you should erase your memories is not a straightforward answer. That problem seems like it belongs to the ethics department.

## Bullwhip Effect

The term bullwhip effect was coined in 1961 by MIT computer scientist Jay Forrester in his seminal book "Industrial Dynamics." It describes what happens when fluctuations in demand reverberate and amplify throughout the supply chain, leading to worsening problems and shortages. Imagine the physics of cracking a whip. It starts with a small flick of the wrist, but the whip's wave patterns grow

w exponentially in a chain reaction, leading to the tip, a snap — and a sharp pain for anyone on the receiving end.

The same thing can happen in supply chains when orders for a product from a retailer go up or down by some amount and that gets amplified by wholesalers, distributors and raw material suppliers.

The onset of the COVID-

19 pandemic, which led to lengthy lockdowns, massive unemployment and a whole host of other effects that messed up global supply chains, essentially supercharged the bullwhip's snap.

The supply of autos is one such example. New as well as used vehicles have been in short supply throughout the pandemic, at times forcing consumers to wait as long as a year for the most popular models. In early 2020, when the pandemic put most Americans in lockdown, carmakers began to anticipate a fall in demand, so they significantly scaled back production. This sent a signal to suppliers, especially of computer chips, that they would need to find different buyers for their products.

## Screenwriter

Becoming a screenwriter starts with developing your talent as a writer, and the best way to develop your talent as a writer is to write. Your first project doesn't need to be a screenplay or TV script. You just need to start somewhere; essays, short stories, plays, etc. The idea is to become comfortable with the writing process, a surprisingly slow and frustrating experience, and find what they call your "voice." Over time, you'll discover if your talents lie primarily with comedy, drama or some combination of the two.

Some people find it helpful to develop their writing skills in a structured educational setting, whether it's a college course, a film school program, or an online writing workshop. The advantage of taking a class is that there are deadlines and grades motivating you to sit down and get to work. At film school, in particular, you also have access to a community of artists, writers and filmmakers from which to draw inspiration and fresh ideas. And if you're lucky, friends and connections you make in film school could lead to your first industry job.

But formal classes and degrees are certainly not required to become a screenwriter. You can create your own personal film school, renting and studying the greatest films and TV shows. There are several free and pay Web sites for reading film and TV scripts online. And there's no shortage of books written for aspiring screenwriters. The most famous is Syd Field's "Screenplay: The Foundations of Screenwriting." Since digital video technology is so affordable, you can always get together with a group of friends and write and produce your own films to gain experience.

## Heat Pumps

When you think about cooling a hot building, you probably don't think of heat pumps. In fact, you likely think of using an air conditioner instead. But as it turns out, a heat pump can both heat and cool, and in some applications, it's preferred to separate heating and cooling systems.

Simply put, a heat pump is a device that uses a small amount of energy to move heat from one location to another. Heat pumps are typically used to pull heat out of the air or ground to heat a home or office building, but they can be reversed to cool a building. In a way, if you know how an air conditioner works, then you already know a lot about how a heat pump works. This is because heat pumps and air conditioners operate in very similar ways.

One of the biggest advantages of a heat pump over a standard heating, ventilating and air conditioning (HVAC) unit is that there's no need to install separate systems to heat and cool your home. Heat pumps also work extremely efficiently, because they simply transfer heat rather than burn fuel to create it. This makes them a little greener than a gas-burning furnace.

There are many kinds of heat pumps, but they all operate on the same basic principle: heat transfer. This means that rather than burning fuel to create heat, the device moves heat from one place to another. There's a key to making this all happen. According to thermodynamics, heat naturally flows from high temperature areas to those with lower temperatures.

## Moon's Oxygen

Oxygen can be found in many of the minerals in the ground around us, and the Moon is mostly made of the same rocks you'll find on Earth (although with a slightly greater amount of material that came from meteors). Minerals such as silica, aluminium, and iron and magnesium oxides dominate the Moon's landscape. All of these minerals contain oxygen, but not in a form our lungs can access.

The Moon's regolith is made up of approximately 45% oxygen. But that oxygen is tightly bound into the minerals mentioned above. In order to break apart those strong bonds, we need to put in energy. You might be familiar with this if you know about electrolysis. On Earth this process is commonly used in manufacturing, such as to produce aluminium. An electrical current is passed through a liquid form of aluminium oxide (commonly called alumina) via electrodes, to separate the aluminium from the oxygen. In this case, the oxygen is produced as a byproduct. On the Moon, the oxygen would be the main product and the aluminium (or other metal) extracted would be a potentially useful byproduct. It's a pretty straightforward process, but there is a catch: it's very energy hungry. To be sustainable, it would need to be supported by solar energy or other energy sources available on the Moon.

Extracting oxygen from regolith would also require substantial industrial equipment. We'd need to first convert solid metal oxide into liquid form, either by applying heat, or heat combined with solvents or electrolytes. We have the technology to do this on Earth, but moving this apparatus to the Moon — and generating enough energy to run it — will be a mighty challenge.

## Demise of the Universe

It is remarkable how often the origin of things is tied to the very same phenomena that ultimately lead to their demise — a fact that is especially evident when we ponder cosmic endings, from the end of the Earth to the end of the universe. For instance, planetary scientists increasingly suspect that comets and ice-

laden meteorites crashing into the primordial Earth probably provided most of the planet's water. Organic molecules have been detected in comets, and researchers simulated those cosmic crash landings by using a gas gun to fire metal projectiles into blocks of ice containing some of the same chemicals that make up comets. The shock wave and heat generated by the impact created molecules that formed amino acids, the building blocks of proteins.



Yet the very same objects that gave this planet life could also spell its demise. Astronomers predict that a comet or asteroid large enough to cause global devastation will smash into the Earth about every 100 million years or so. Fortunately, if such a comet or asteroid were to arrive sooner than expected, we are constructing observational systems to discover and track near-Earth objects, conceivably providing us with sufficient time to pre-empt catastrophe. Other cosmic smash-ups, however, cannot be averted, no matter how much advance warning we have. The inexorable tug of gravity that enabled the formation of the Milky Way has also put us on a collision course with our neighboring galaxy, Andromeda. Recent observations confirm that Andromeda is heading straight toward us at about 60 miles per second, and will traverse the 2.5 million light-year distance currently separating our galaxies in about four billion years.

## Hippocampus

If the hippocampus is damaged by disease or injury, it can influence a person's memories as well as their ability to form new memories. Hippocampus damage can particularly affect spatial memory, or the ability to remember directions, locations, and orientations. Because the hippocampus plays such an important role in the formation of new memories, damage to this part of the brain can have a serious long-

term impact on certain types of memory. Damage to the hippocampus has been observed upon post mortem analysis of the brains of individuals with amnesia. Such damage is linked to problems with forming explicit memories such as names, dates, and events.

The exact impact of damage can vary depending on which hippocampus has been affected. Research on mice suggests that damage to the left hippocampus has an effect on the recall of verbal information while damage to the right hippocampus results in problems with visual information. There are a few different factors that can affect the function of the hippocampus.

Age can also have a major impact on the functioning of the hippocampus. MRI scans of human brains have found that the human hippocampus shrinks by around 13% between the ages of 30 and 80. Those who experience such a loss may show significant declines in memory performance. Cell degeneration in the hippocampus has also been linked to the onset of Alzheimer's disease.

The hippocampus may also play a role in contributing to the development of addictions. Because drugs and alcohol affect the brain's reward systems, the hippocampus creates memories of these satisfying experiences. It also may help form memories of environmental cues associated with substance use that can contribute to intense cravings when these cues are encountered again.

## Strategic Management

Strategic management is a youthful discipline. Its origins date back to the 1960s, with its roots to be found mainly in the seminal publications by Chandler, Ansoff and Andrews. Since then, it has evolved significantly, becoming an ever more mature and consolidated field within the realm of management. The discipline's progress toward maturity has been accompanied by several factors. First, there has been a marked increase in the range of topics addressed. The study of "best practices" in the 1960s ha

s given way to an analysis of such varied topics as internationalization, cooperation between firms, strategies and competition in the markets for products and factors, strategic leadership, and the relationship between a firm's strategy and its corporate social responsibility, to mention just a few.

Second, there has been significant growth in the range of research methods used, with these becoming steadily more sophisticated. In-

depth case studies have been largely replaced by the use of quantitative tools based on complex econometric techniques, multilevel analysis and, more recently, hybrid methodologies, whereby a single study combines quantitative and qualitative techniques, with each being adapted to the nature of the problem to be analyzed.

Third, and finally, the academic community interested in strategy research has been growing steadily, not just in terms of the number of scholars dedicated to this field but also their international nature as well as the linkages among them. If we take our yardstick to be the publication *Strategic Management Journal*, we can see how cooperation has been increasing between scholars from both an inter-institutional as well as an international perspective. Furthermore, the Strategic Management Society currently has almost 3000 members from more than 80 countries.

## Global Business

Political risk and nationalism have had major impacts on the development and retardation of global business. Two World Wars, the protectionism of the 1930s, and subsequent waves of economic nationalism damaged the global economy severely and threw it into reverse, though temporarily and partially, and changed the trajectory of globalization during the twentieth century. Wartime blockades, interwar trade barriers, and policies of sovereign nations protecting or serving national interests dealt a blow to the global integration of the market. The two World Wars also brought about technological innovation, and partly contributed to the rise of regions that had been traditionally on the periphery, and laid the basis for today's multi-

polar global economy. Under these pressures, global business looked to transform itself from being based on a unitary structure to a multi-centred one: today's multinational corporations were created to operate beyond the constraints imposed by the sovereign states. In addition, the economic entities involved in global business created international public goods on their own, such as special safe havens, rather than remaining passive to the actions of sovereign states. Ironically, however, this seems to be creating a new kind of political risk and widespread anti-

globalism. The effects of political risks, due to their nature, showed significant geographical differences. They varied widely between European and US companies. In Europe, where serious risks such as war and occupation became a reality, the capability to address political risks had a great impact on the rise, fall, and survival of firms, while in US, such risks have little impact on companies.

## Highway Hypnosis

Have you ever driven home and arrived at your destination without remembering how you got there? No, you weren't abducted by aliens or taken over by your alternate persona. You simply experienced highway hypnosis. Highway hypnosis or white line fever is a trance-

like state under which a person drives a motor vehicle in a normal, safe manner yet has no recollection of having done so. Drivers experiencing highway hypnosis may zone out for short distances or hun-

dreds of miles. Highway hypnosis is an example of the phenomenon of automaticity, which is the ability to perform actions without consciously thinking about them. People perform daily activities automatically all the time, such as walking, riding a bike, or performing a learned and practiced skill, such as knitting. Once a skill is mastered, it's possible to perform it while focusing on other tasks. For example, a person skilled at driving a car can plan a grocery list while driving. Because the stream of consciousness is directed at the other task, partial or complete amnesia of the time spent driving can occur. While driving on automatic may seem hazardous, automaticity may actually be superior to conscious driving for professional or skilled drivers. When a person experiencing true highway hypnosis automatically scans the environment for threats and alerts the brain of danger, it is the typical distinction from dangerous fatigued driving.

## Color Awareness

Have you ever wondered if you see the same colors as other people? Most people know what blue is when they see it. It's the color of sea, sky and sapphires. They see the color and call it blue because they were taught the word and associated it with what they saw. But how do you know what you see as blue isn't someone else's red, and vice versa?

The ability to perceive different colors is down to receptors in our eyes known as cones. Light waves hit these receptors and they react depending on which color the light is, sending signals to the brain. The brain then decodes these signals to determine which color light the eyes are receiving. Some people's receptors are more developed than others. And those with more enhanced receptors can see more shades of one colour, which is the first way in which people may see colors differently from each other. The inability of the receptor to interpret the light waves correctly means that some people can not distinguish between different shades of a color. So we sometimes hear people having an argument about whether something is dark blue or black. It might be because one person has stronger receptors to interpret the light than another.

So, the next time you talk about your favorite color, just remember if yours is blue and your friend says red, you might actually be thinking about the same colour. What if everyone in the world has the same favorite color, but just calls it different names?

## Honeybees Vaccination

It may still come as a surprise that human beings are not alone in having invented vaccination. Work just published in the Journal of Experimental Biology by Gyan Harwood of the University of Illinois, Urbana-Champaign, confirms that honeybees may invent vaccination earlier.

Being gregarious, honeybees are at constant risk of diseases sweeping through their hives. Most animals which live in crowded conditions have particularly robust immune systems, so it long puzzled entomologists that honeybees do not. Indeed, they actually possess fewer immune-related genes than most solitary bees.

Part of the answer, discovered in 2015, is that queen bees vaccinate their eggs by transferring into them, before they are laid, fragments of proteins from disease-causing pathogens. These act as antigens which trigger the development of a protective immune response in the developing young. But that observation raises the question of how the queen receives her antigen supply in the first place, for she subsists purely on royal jelly, a substance secreted by worker bees which are at the stage of their lives (which precedes the period that they spend flying around foraging for nectar and pollen) when they act as nurses to larvae. Dr. Harwood therefore wondered i

f the nurses were mixing the royal jelly they were producing and fragments from pathogens they had consumed while eating the victuals brought to the hive by the foragers.

Later, the findings suggest that nurse bees are indeed, via their royal jelly, passing antigens on to the queen for inoculation into her eggs. They also mean, because larvae, too, receive royal jelly for the first few days after they hatch, that the nurses are inoculating their larval charges as well. Each infant bee is therefore being vaccinated twice.

## Eye Protection

Continuous use of mobile phones before bedtime in the dark can initially cause dry eyes, and strain your eyes. Direct glare of over 30 minutes can even cause irreversible eye macular degeneration, resulting in rapid deterioration of vision.

The fact is that the mobile devices expose us to high energy visible (HEV) light or blue light, which in certain experiments in laboratory with high dose of exposure has shown to cause changes in certain cells of the eyes. The HEV light or blue light is also part of the light from LEDs and sunlight. K. Bhujang Shetty, chairman and managing director of Narayana Nethralaya, says that eyes could be affected after continuous and prolonged use of mobile phones in the dark. And this habit may not cause enough damage that can lead to permanent vision loss if a person uses it occasionally. But it would definitely strain the eyes. He also suggests some precautions, including maintaining a comfortable working distance from the device — be it a mobile phone or computer and ensure that the screen is bright enough and the fonts big enough to read comfortably.

It is also advisable for a person to follow the rule of 20s — every 20 minutes, stare at an object 20 feet away for 20 seconds. This will bring back your blink rate to normal and also relax the muscles in your eye.

## Wetlands Resources

Wetlands are one of the world's most important environmental assets which provide homes for large, diverse biota as well as significant economic, social and cultural benefits related to timber, fisheries, hunting, recreational and tourist activities. They support the livelihoods of surrounding communities, including water, papyrus and fisheries among others, and provides vital ecosystem services such as purification and storage of water. It also acts as a carbon sink, thus regulating global and local climatic conditions and is internationally recognized as a key biodiversity area that hosts globally and nationally threatened bird, fish and mammal species. The wetland has attracted both local farmers and external agricultural interests. Wetlands constitute an important resource for riparian communities, and therefore it is important that they participate in the management of wetlands. Community participation in natural resource management has evolved from the realization that people living with natural resources should be responsible for their management and benefit from using the resources. Citizens must not only have access to information but must also be entitled to participate in decision making and have access to justice in environmental matters. However, participation of local communities in seeking solutions to wetlands resources use remains a grave challenge as managers of participation processes engage in low level consultations that do not empower them to co-manage these resources. Besides, the dynamics of communities' participation and their activities on the wetland are not clearly understood despite wetland's continued degradation in size and value.



## Wage Slave

Americans in the mid-

nineteenth century could point to plenty of examples, real as well as mythical, of self-made men who by dint of "industry, prudence, perseverance, and good economy" had risen "to competence, and then to affluence." With the election of Abraham Lincoln they could point to one who had risen from a log cabin to the White House.

"I am not ashamed to confess that twenty five years ago I was a hired laborer, mauling rails, at work on a flat-boat—

just what might happen to any poor man's son!" Lincoln told an audience at New Haven in 1860. However, in the free states, a man knows that he can better his condition. There is no such thing as a free man being fatally fixed for life, in the condition of a hired laborer. Wage slave was a contradiction in terms, said Lincoln. The man who labored for another last year, this year labors for himself, and next year he will hire others to labor for him. If a man continue through life in the condition of the hired laborer, it is not the fault of the system, but because of either a dependent nature which prefers it, or improvidence, folly, or singular misfortune. "The free labor system," concluded Lincoln, "opens the way for all—

gives hope to all, and energy, and progress, and improvement of condition to all."

## Education Technology

In 1953 B.F. Skinner visited his daughter's maths class. The Harvard psychologist found every pupil learning 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.

## Dogs

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 happens



ened 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.

## Bertrand Russell

As a philosopher, mathematician, educator, social critic and political activist, Bertrand Russell authored over 70 books and thousands of essays and letters addressing a myriad of topics. Awarded the Nobel Prize in Literature in 1950, Russell was a fine literary stylist, one of the foremost logicians ever, and a gadfly for improving the lives of men and women.

He was arguably the greatest philosopher of the 20th century and the greatest logician since Aristotle. Analytic philosophy, the dominant philosophy of the twentieth century, owes its existence more to Russell than to any other philosopher. And the system of logic developed by Russell and A.N. Whitehead, based on earlier work by Dedekind, Cantor, Frege, and Peano, broke logic out of its Aristotelian straitjacket. He was also one of the century's leading public intellectuals and won the Nobel Prize for Literature in 1950

"in recognition of his varied and significant writings in which he champions humanitarian ideals and freedom of thought."

Russell was involved, often passionately, in numerous social and political controversies of his time. For example, he supported suffragists, free thought in religion and morals, and world government; he opposed World War I and the Vietnam War, nationalism, and political persecution. He was jailed in 1918 for anti-war views and in 1961 for his anti-nuclear weapons stance.

He was married 4 times and had 3 children. With Dora Russell, he founded the experimental Beacon Hill School. He knew or worked with many of the most prominent figures in late 19th and 20th century philosophy, mathematics, science, literature, and politics.

## WRITE ESSAY

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Advertisements make people purchase things they don't need or cannot afford, but they also convey information to increase people's life quality. What is your opinion?

Many people are living in poor lifestyles which affect their health. List some unhealthy lifestyles and give some solution suggestions to the national health service.

Some schools schedule all the exams at the end of each year, while other schools schedule them throughout the whole year. What are the advantages and disadvantages of these two strategies? Which one do you think is better?

Do you agree that the rise of artificial intelligence raises ethical concerns?

What is your opinion on the impact of artificial lighting on wildlife?

Being a journalist is one of the most difficult jobs in the world. To what extent, you agree with it?

To what extent do you think that organic farming can feed the world population?

What is your view on the idea that it takes failure to achieve success?

Do you agree that the use of bioplastics is a crucial step towards reducing plastic pollution?

Some people claim that instead of having to prepare for huge numbers of exams in school, children should learn more. To what extent do you agree with this statement?

Do you agree that digital art is as valuable as traditional art?

Pop music should have a university degree. Do you agree or disagree?

What is your opinion on the necessity of bilingual education in a globalized world?

Is a competitive environment in school or university good or bad? Discuss and give your own experiences as examples.

What are the advantages and disadvantages of incorporating video games into education and skill development?

With the increase of new digital media available online, the role of the library has become obsolete. Therefore, universities should only procure digital materials rather than constantly update textbooks. Discuss both the advantages and disadvantages of this position and give your own point of view.

Because university degrees can get people jobs with higher salaries, university students should pay full cost for their education. Do you agree or not?

Do you agree that physical books will eventually become obsolete?

Do you believe that space exploration is a good investment for governments?

What is your opinion on the importance of learning a second language?

What is your opinion on the role of robotics in the future of work?

Among computer, aerospace, and manufacturing industries, which one has a more promising future? Please provide your reasons.

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?

Some think it is better to enjoy your money when you earn it, while others think it is better to save it for some time in the future. What is your opinion?

Do you think textbooks should be replaced by online resources and technological innovations?

Some young children spend a great amount of their time practicing sports. Discuss the advantages and disadvantages of this.

Marks encourage students to learn. To what extent do you agree with this statement?

Some people are always in a hurry to go to various places and get things done. Other people prefer to take their time and live a life at a slower pace. What is your opinion?

Some people like to do only what they already do well. Other people prefer to try new things and take risks. What is your opinion?

Animal rights have been a subject of debate since the 1970s. Are zoos helping or hurting animals?

Around the world, an increasing number of people are migrating from rural to urban areas. What is your opinion towards the phenomenon? Give examples to support your view.

In the future, students may have the choice of studying at home by using technology such as computers or television instead of studying at traditional schools. Discuss the advantages and disadvantages thereof.

In your opinion, what are the advantages and disadvantages of extreme or adventure sports?

Education matters a lot to children, but some families cannot afford to pay the tuition. So, some people have argued that schools should be tuition-free. What is your opinion?

People work because they need money for a living. What are some other reasons why people work? Discuss one or more of these reasons.

Why do you think some people are attracted to dangerous sports or other dangerous activities?

How do movies or television influence people's behaviour?

Parents or other adult relatives should make important decisions for their teenage children. Do you agree with that?

Should marketing for consumer goods companies like clothing and food emphasize reputation or short-term strategies like discounts and special offers?

Movies are popular all over the world. Explain why movies are so popular.

People often feel stressed and have different ways of escaping the stress and difficulties of modern life. When do you feel stressful and how do you release stress?

Do you agree that privatization of public sector undertakings is beneficial to society?

Some believe the value of travel is highly overrated. 'One brilliant scholar never leaves the home bases.' People argue whether travel is a necessary component of quality education or not. To what extent do you agree with it?

Having a good boss in the workplace is very important for personal development. What kind of boss is a good boss for you?

Everyone wants success, but what is the key to success, the ability or the opportunity?

Some people think that we should find a way to live with climate change instead of solving it. What is your opinion?

Some people prefer to live in the big city while others like to live in the small town. Which one would you choose to live in? What makes you choose it?

Some people say robots will work as teachers in school in the future. Discuss the advantages and disadvantages.

Some people think human behaviour can be changed by laws, while others think laws have little effect. What is your opinion?

Many people say air flights have a more negative impact than a positive one on the environment. To what extent do you agree with this argument?

Which subject will you choose for study of science? Explain it with examples.

Some people believe that all cities and towns should have at least one large public open space. To what extent do you agree or disagree?

Do you agree that mindfulness practices should be integrated into educational curriculum?

Some employers take the opinions of their employees when determining the areas to invest in. Please explain whether it will bring advantages or disadvantages.



To what extent do you believe that cultural exchange programs can promote global peace and understanding?

Do you believe that the pursuit of happiness is the most important goal in life?

Do you think it has a positive or negative impact on you if you buy a home close to the workplace?

Do you believe that social media platforms should regulate online content more strictly?

What are the main reasons people struggle to maintain healthy eating habits in today's society?



## READING

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## FILL IN THE BLANKS R/W

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The environmental cost of our fleeting love affair with fast fashion is staggering. A single cotton T-shirt, for example, requires over 700 gallons of water to produce, while a pair of jeans can \_\_\_\_\_ (Answer: generate) 20 pounds of carbon emissions. And these garments are often \_\_\_\_\_ (Answer: discarded) after just a few wears, filling landfills with mountains of textile waste. We often buy clothes to express our identity and feel like we belong to a certain group. \_\_\_\_\_ (Answer: However), in a world saturated with fast fashion, this symbolic meaning fades quickly. Historically, people had a deeper connection with their clothing. Garments were often handmade or \_\_\_\_\_ (Answer: passed) down through generations, imbuing them with a unique history and emotional value. Today's mass production, on the other hand, encourages us to view clothing as disposable commodities.

Choices:

1. generated, access, recycle, measure
2. found, allocated, discarded, developed
3. However, While, For instance, Besides
4. sought, passed, raised, altered

In the realm of space exploration, human curiosity has led to \_\_\_\_\_ (Answer: monumental) achievements and profound scientific discoveries. The exploration of our solar system and beyond has deepened our understanding of the universe. Yet, it has also revealed the \_\_\_\_\_ (Answer: daunting) challenges and complexities of venturing into the unknown. One of the remarkable \_\_\_\_\_ (Answer: achievements) of space exploration is the ability to send robotic missions to distant planets and celestial bodies. These missions have provided us with invaluable data and insights into the nature of our universe, often exceeding our \_\_\_\_\_ (Answer: considerable) expectations. However, human exploration of space remains a compelling endeavour. The dream of sending astronauts to Mars or establishing a presence on the Moon is a testament to our \_\_\_\_\_ (Answer: resolve) to conquer new frontiers and expand our horizons.

Choices:

1. trivial, monumental, insignificant, routine
2. mundane, daunting, simple, unexpected
3. achievements, drawbacks, benefits, challenges
4. vast, limited, modest, considerable
5. reluctance, aversion, hesitation, resolve

This summer, a group of 38 intrepid explorers embarked on a journey into the \_\_\_\_\_ (Answer: heart) of the Amazon rainforest aboard the “Corocoro”, a vessel specifically designed for navigating the intricate waterways of this \_\_\_\_\_ (Answer: lush) wilderness. As they journeyed along the mighty Amazon River and its tributaries, they were enveloped by the symphony of exotic birdsong and the vibrant tapestry of the rainforest's diverse flora and \_\_\_\_\_ (Answer: fauna). One particularly poignant highlight was a visit to a community-led reforestation project, where local villagers \_\_\_\_\_ (Answer: shared) their stories of resilience and their commitment to preserving the rainforest for future generations. This encounter underscored the profound interconnectedness between the Amazon's natural world and the lives of the people who depend on it. Leaving the rainforest was bittersweet, as the group returned with a deeper \_\_\_\_\_ (Answer: appreciation) for the Amazon's breathtaking beauty and its critical role in the health of our planet. Their journey served as a powerful reminder of the responsibility we all share to protect this irreplaceable treasure for generations to come.

Choices:

1. cycle, compilation, heart, source
2. literacy, lush, neutral, adequate
3. guts, fauna, portions, variability
4. supervised, negotiated, ignored, shared
5. flexibility, expansion, maturity, appreciation

A team of Indian scientists has achieved a historic \_\_\_\_\_ (Answer: feat) by successfully landing a spacecraft at the lunar south pole, where no one has ever gone before. The Chandrayaan-3 mission, launched in July 2023, was the first to reach the unexplored \_\_\_\_\_ (Answer: region) that is believed to contain reservoirs of frozen water. The mission, which cost only \$75m, showed the world that India is a major player in space exploration and that a moon lander can be constructed at a \_\_\_\_\_ (Answer: fraction) of the cost of other countries. The lander detected sulphur on the surface of the moon and showed that lunar soil is a good insulator. The scientists, including several senior female researchers, \_\_\_\_\_ (Answer: celebrated) their achievement at the control room in India, inspiring millions of young people across the country and beyond.

Choices:

1. peat, feat, pleat, defeat
2. scale, order, region, topic
3. plunge, fraction, price, peak
4. abandoned, celebrated, moderated, surpassed

Scientists have discovered the oldest direct evidence of oxygenic photosynthesis, the process by which cells use sunlight, water and carbon dioxide to produce energy and oxygen. The evidence consists of fossils of microscopic structures called stromatolites, which \_\_\_\_\_ (Answer: are formed) by layers of cyanobacteria and sediment. The fossils \_\_\_\_\_ (Answer: date) back to 75 billion years ago, pushing back the origin of oxygenic photosynthesis by 2 billion years. The discovery, published in Nature, sheds new light on the evolution of life on Earth and the Great Oxygenation Event, a crucial period in which oxygen levels in the atmosphere and oceans increased \_\_\_\_\_ (Answer: dramatically). The researchers analysed the fossils from the McDermott Formation in Australia using various techniques, including scanning electron microscopy and Raman spectroscopy. They found that the stromatolites contained structures similar to those of modern cyanobacteria, indicating that they were \_\_\_\_\_ (Answer: capable) of oxygenic photosynthesis.

Choices:

1. has been formed, will form, were forming, are formed
2. trace, return, date, reach
3. dramatically, commonly, smoothly, thoroughly
4. capable, able, likely, suitable

Exploring the greenery of a city can reveal a surprising diversity, akin to the layers of a forest canopy. Urban trees, from the towering elms \_\_\_\_\_ (Answer- lining) the streets to the potted plants on balconies, create a layered tapestry of vegetation. This urban canopy does more than just beautify; it cleans the air, provides shade, and even reduces noise \_\_\_\_\_ (Answer- pollution). It's fascinating how, within the \_\_\_\_\_ (Answer- confines) of concrete and steel, these plants thrive, adapting to their surroundings in inventive ways. Some trees have roots that navigate the urban soil landscape, \_\_\_\_\_ (Answer-while) others seem to reach out from the smallest cracks in the pavement. This urban greenery, much like a natural forest, supports a range of wildlife, creating a micro-ecosystem in the heart of the city. Next time you walk through your city, look up and around; you're likely \_\_\_\_\_ (Answer- wandering) through an urban forest.

Choices:

1. shining, spinning, lining, dining
2. interference, rate, participation, pollution
3. lanes, facet, degrees, confines
4. what, while, which, that
5. wandering, ratifying, capsizing, embedding



The pharmaceutical industry is witnessing a significant leap in innovation with the development of an AI-powered platform known as the 'reactome'. Developed \_\_\_\_\_ (Answer: jointly) by Cambridge and Pfizer, this technology is revolutionizing the process of drug design by accurately \_\_\_\_\_ (Answer: predicting) chemical reactions. This advancement streamlines the pharmaceutical development process, making it more efficient and potentially speeding up the availability of new drugs. The integration of AI into drug design marks a major shift in how pharmaceuticals are developed, offering a more precise and faster \_\_\_\_\_ (Answer: route) to discovering new treatments. This could lead to breakthroughs in medicine, especially for complex diseases that have been challenging to treat. As the pharmaceutical industry \_\_\_\_\_ (Answer: embraces) this new technology, it holds the promise of enhancing healthcare and treatment options globally.

Choices:

1. hardly, jointly, patiently, regularly
2. predicting, predicts, predictions of, has predicted
3. departure, deviation, route, advance
4. frames, mimics, previews, embraces

In an intriguing development in astro-botany, researchers are exploring the potential of watermeal, the world's smallest flowering plant, in hyper gravity conditions. This research \_\_\_\_\_ (Answer: aims) to assess its suitability as a sustainable food \_\_\_\_\_ (Answer: source) and oxygen producer for astronauts. Conducted in environments mimicking space conditions, the study explores how watermeal grows and thrives under increased gravity. The plant's small size and rapid growth rate make it an \_\_\_\_\_ (Answer: ideal) candidate for space cultivation. If \_\_\_\_\_ (Answer: successful), watermeal could become a vital component of life-support systems in long-duration space missions, providing astronauts with a renewable source of food and oxygen. This research not only contributes to the advancement of space exploration but also opens up new possibilities in understanding plant biology \_\_\_\_\_ (Answer: under) extreme conditions. It can also offer insights into how plants might adapt to changing environments on Earth, particularly in response to climate change.

Choices:

1. enters, fits, works, aims
2. root, source, process, cause
3. ideal, articulate, exhaustive, absolute
4. successful, is successful, is succeeded, succeeds
5. beyond, within, throughout, under

Tardigrades, also known as water bears, are microscopic animals that can live in almost any environment, from the deep sea to the frozen poles. They have a remarkable ability to enter a \_\_\_\_\_ (Answer: state) of deep hibernation when faced with harsh conditions such as high temperatures, radiation, or dehydration. But how do they do it? Researchers have discovered that tardigrades use tiny molecular sensors in their cells to \_\_\_\_\_ (Answer: detect) the level of harmful molecules which are produced by stress. These sensors \_\_\_\_\_ (Answer: are made of) an amino acid called cysteine, which changes its structure and function when oxidized by harmful stress molecules. This \_\_\_\_\_ (Answer: signals) the tardigrades to enter or exit hibernation, depending on the situation. The researchers say that this mechanism may help us understand the ageing process and the possibility of long-term space travel.

Choices:

1. path, circumstance, state, condition
2. detect, amplify, disable, introduce
3. made, have been made, are made of, made in
4. signals, infers, sustains, identifies

Have you ever felt fine at the doctor's office, even though you had been experiencing bothersome symptoms before? This can be frustrating and confusing, especially if you have a chronic illness or a mental health issue. You may wonder if your doctor will take you seriously, or if you are making a big deal \_\_\_\_\_ (Answer: out of) nothing. However, experts say that this phenomenon is normal and common, and there are ways to deal with it. Symptoms can \_\_\_\_\_ (Answer: fluctuate) due to various factors, such as stress, distraction, or coincidence. Your mental health can also affect your physical health, and \_\_\_\_\_ (Answer: vice versa). Illness anxiety disorder, or hypochondria, is a serious mental condition that can affect one's physical health and well-being. People with this disorder have a \_\_\_\_\_ (Answer: persistent) fear of having an undiagnosed illness, despite having no or minimal symptoms. A recent Swedish study found that people with this disorder may die earlier than others, due to both natural and unnatural causes. However, there is hope for people with illness anxiety disorder, as effective treatments are available. Cognitive behavioural therapy, which helps patients identify and challenge their irrational thoughts and behaviours, is one of the most successful \_\_\_\_\_ (Answer: interventions).

Choices:

1. round, regarding, in, out of
2. modify, illustrate, fluctuate, exceed
3. reciprocally, et cetera, respectively, vice versa
4. mechanical, persistent, therapeutic, proper
5. features, parameters, delegations, interventions

Despite extensive Hindi language education, travellers often find themselves at a linguistic crossroads in India, a country where the linguistic landscape is as diverse as its culture. This diversity is not indicative of a flawed education \_\_\_\_\_ (Answer: system) but reflects the rich tapestry of languages that India is home to. \_\_\_\_\_ (Answer: With) over 1,600 languages spoken across the subcontinent, the concept of a "standard" Indian language is a misnomer. Each region boasts its own linguistic heritage, with languages ranging from the Dravidian family in the south to the Indo-Aryan dialects in the north. Urban areas, especially, are \_\_\_\_\_ (Answer: melting) pots of languages, with residents often fluent in multiple tongues, including English, which serves as a lingua franca. The historical roots of this diversity trace back to ancient migrations and invasions, with each \_\_\_\_\_ (Answer: wave) of newcomers leaving a linguistic imprint. This has resulted in a country where language is deeply \_\_\_\_\_ (Answer: tied) to regional identity, and the idea of a single unifying language remains elusive.

Choices:

1. mechanism, corridor, technique, system
2. Through, Up to, With, Between
3. boiling, emerging, stirring, melting
4. wave, dose, blast, chronicle
5. enacted, tied, contributed, dominated

The brain's knack for anticipation is a marvel, similar to a chess player thinking several moves ahead. This ability isn't just about reflexes or instincts but involves complex planning and prediction. For instance, before you even decide to \_\_\_\_\_ (Answer: catch) a ball, your brain has already mapped out the trajectory, your hand position, and the force needed. This foresight \_\_\_\_\_ (Answer: extends) beyond physical actions to emotional and cognitive realms, preparing you for conversations, problem-solving, and even bracing for potential stressors. It's \_\_\_\_\_ (Answer: as if) the brain is perpetually drafting blueprints for multiple futures, selecting the most relevant one as the situation \_\_\_\_\_ (Answer: unfolds). This foresight closely reflects the brain's complexity, not just reacting to the present but continuously shaping the future.

Choices:

1. catch, pull, take, tap
2. located, extends, supports, assigns
3. though, as if, so that, even if
4. contracts, stagnates, yields, unfolds

The Scandinavian countries — Sweden, Norway, Denmark, and Finland — share a bond that goes beyond geographical proximity. These nations, with their Viking heritage, are known for their strong

social welfare systems, commitment to equality, and high \_\_\_\_\_ (Answer: quality) of life. Despite their individual identities, they often present a united \_\_\_\_\_ (Answer: front) on the global stage, particularly in areas like environmental conservation and human rights. With languages that are \_\_\_\_\_ (Answer: mutually) intelligible to varying degrees and a shared history of collaboration and competition, the Scandinavian countries embody a unique \_\_\_\_\_ (Answer: blend) of rivalry and brotherhood. This camaraderie is evident in initiatives like the Nordic Council, which fosters cooperation in areas ranging from culture to legislation. Moreover, these countries face similar challenges, such as \_\_\_\_\_ (Answer: maintaining) their welfare models in the face of globalization and addressing the complexities of immigration in societies known for their homogeneity.

Choices:

1. density, quality, magnitude, frequency
2. edge, border, front, atmosphere
3. similarly, accurately, mutually, dependently
4. blend, stair, turnover, comparison
5. pertaining, maintaining, repainting, remaining

As humanity's presence in space extends from weeks to months, the culinary landscape beyond Earth's atmosphere is undergoing a remarkable transformation. The early days of space travel \_\_\_\_\_ (Answer: were marked) by simple, utilitarian food options — freeze-dried meals and energy bars designed for efficiency rather than enjoyment. However, the \_\_\_\_\_ (Answer: quest) for sustainable long-term space habitation has sparked innovation in space cuisine. Advanced hydroponic systems and bioregenerative life support systems are being developed to enable the cultivation of fresh \_\_\_\_\_ (Answer: produce) in microgravity conditions. These efforts aim not only to improve astronauts' physical health but also to provide psychological comforts through the familiar act of cooking and eating fresh food. Adapting recipes and cooking methods to different gravity levels and preserving food quality and safety in \_\_\_\_\_ (Answer: extreme) environments are among the challenges of space cuisine.

Choices:

1. has marked, were marked, that marked, which were marked
2. investigation, quest, detour, pursuit
3. produce, dishes, products, equipment
4. habitual, extreme, unworldly, sophisticated

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 \_\_\_\_\_ (Answer: increasingly) modernized the urban areas of the country. Bhutan has \_\_\_\_\_ (Answer: balanced) modernization with its ancient culture and traditions under the guiding philosophy of Gross National Happiness (GNH). Rampant \_\_\_\_\_ (Answer: destruction) of the environment has been avoided. The government takes great \_\_\_\_\_ (Answer: measures) 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, \_\_\_\_\_ (Answer: citing) a global survey conducted by the University of Leicester in 2006 called the "World Map of Happiness".

Choices:

1. beneficially, increasingly, contemporarily, mechanically
2. juggled, opted, balanced, altered
3. destruction, embodiment, vanity, execution
4. prides, measures, effects, allowance
5. submitting, citing, reviewing, proving

The recent trend towards smart homes \_\_\_\_\_ (Answer: incorporates) gadgets that automate tasks, aiming to increase convenience and efficiency. For example, smart thermostats can adjust the temperature based on the weather and occupancy, smart lights can turn on and off with voice \_\_\_\_\_ (Answer: commands) or motion sensors, and smart security systems can alert the homeowners of any \_\_\_\_\_ (Answer: suspicious) activity. At the same time, there's a growing appreciation for vintage and handmade items, suggesting a desire \_\_\_\_\_ (Answer: for) uniqueness and craftsmanship. Many people choose to decorate their homes with antiques, collectibles, or artisanal products, such as quilts, pottery, or paintings. Others mix and \_\_\_\_\_ (Answer: match) different styles and eras, creating a fusion of old and new. This juxtaposition raises questions about how these seemingly opposite elements can coexist and enhance each other's value.

Choices:

1. incorporates, invalidates, operates, cooperates
2. pulses, rulers, sighs, commands
3. suspicious, identical, guilty, artificial
4. to, for, from, of
5. estimate, clash, divide, match

Heat pumps are devices that use electricity to transfer heat from outside to inside a building, providing a clean and efficient way to heat homes. Heat pumps work by using a refrigerant, a material that changes state from liquid to gas and back \_\_\_\_\_ (Answer: again), to



absorb heat from the air, ground or water outside and transfer it to the water or air inside the building. This process can \_\_\_\_\_ (Answer: produce) more energy than the electricity that is put into it, resulting in an energy efficiency of over 100%. They are considered a crucial technology for achieving the UK's \_\_\_\_\_ (Answer: target) of reaching net zero emissions by 2040, as they can replace fossil fuel-based heating systems such as gas boilers. However, heat pumps are still \_\_\_\_\_ (Answer: relatively) uncommon in the UK, with only 1% of British homes having one installed, compared to 60% of Norwegian homes. The government aims to increase this number to 80% by 2048, and has recently \_\_\_\_\_ (Answer: announced) a 50% increase in its boiler upgrade grants, which offer households up to £7,500 to switch to a heat pump.

Choices:

1. yet, aside, around, again
2. produce, imitate, deplete, conceal
3. term, target, boundary, trend
4. relatively, precisely, abruptly, regularly
5. underestimated, announced, diverted, told

While most mosquitoes are merely annoying, buzzing nuisances, there are some species that carry deadly pathogens, turning them into silent assassins. The most \_\_\_\_\_ (Answer: notorious) among these is the female *Anopheles* mosquito, the primary vector for malaria, a disease that claims the lives of hundreds of thousands of people each year, \_\_\_\_\_ (Answer: predominantly) in sub-Saharan Africa. But malaria is just the tip of the iceberg. Mosquitoes are also \_\_\_\_\_ (Answer: responsible) for spreading a host of other deadly diseases, including dengue fever, Zika virus, West Nile virus, and yellow fever, to \_\_\_\_\_ (Answer: name) just a few. With each blood meal, they unwittingly transmit these pathogens from host to host, perpetuating a cycle of disease and death. And it's not just humans that fall victim to the mosquito's deadly embrace. Wildlife, livestock, and even beloved household pets are all susceptible to the diseases \_\_\_\_\_ (Answer: carried) by these tiny terrors. From birds to elephants, no creature is safe from their insidious reach.

Choices:

1. jubilant, harmonious, notorious, trivial
2. uniformly, predominantly, occasionally, intentionally
3. responsible, strict, scared, likely
4. know, name, call, from
5. carried, carrying, which is carried, that been carried

The death of a loved one through an accident or act of violence can be particularly traumatic because it is so sudden and unexpected. In the initial \_\_\_\_\_ (Answer: aftermath) of such a loss, you may experience intense emotions like anger, guilt, and deep sadness. Physically,

you may feel exhausted, experience changes in appetite, or have \_\_\_\_\_ (Answer: trouble) sleeping. All of these reactions are normal and expected. To cope with a traumatic loss, it is important to allow yourself to grieve in your own way and in your own time. The pain from a traumatic loss may never completely \_\_\_\_\_ (Answer: fade), but it will soften over time. Be gentle with yourself and allow the grief process to unfold. \_\_\_\_\_ (Answer: Cherish) the happy memories you had with the loved one you lost. Honor them in the way you choose to live your own life going forward. Though life feels bleak now, you will heal and find happiness and meaning again.

Choices:

1. core, crux, shortcoming, aftermath
2. trouble, deprivation, noise, error
3. close, fade, escalate, cut
4. Tangle, Culminate, Inspire, Cherish

Ibn Khaldun was a scholar from North Africa born in the 14th century. He is most renowned for his work "Muqaddimah," where he \_\_\_\_\_ (Answer: laid) out the foundations of several social sciences. Khaldun challenged how history was recorded, arguing that it should be based on societal trends and common patterns, not just stories of leaders and battles. He \_\_\_\_\_ (Answer: introduced) concepts like "Asabiyyah," which is the social cohesion that keeps a society together, and discussed how economies and societies evolve over time. Khaldun's ideas were \_\_\_\_\_ (Answer: ahead) of their time, influencing not just the Islamic world but also later European thinkers. \_\_\_\_\_ (Answer: Despite) the breadth of his work, Ibn Khaldun isn't as widely known in the \_\_\_\_\_ (Answer: mainstream) historical narrative as some of his contemporaries or successors, mainly because his work was not widely translated, circulated, or appreciated by the dominant political and intellectual forces of his time.

Choices:

1. pulled, laid, allowed, fabricated
2. introduced, controverted, assisted, digested
3. behind, toward, forward, ahead
4. Regardless, Since, Even though, Despite
5. rigorous, mainstream, crucial, sufficient

Polar bears are amazing animals that can \_\_\_\_\_ (Answer: survive) in the harsh Arctic conditions. Their fur is one of their secrets, as it is hollow, lightweight, and insulating. Now, a team of researchers from China has created a synthetic fibre that \_\_\_\_\_ (Answer: mimics) the properties of polar bear fur. The researchers used a chemical process to make the fibre, which has a porous core and a smooth surface. They claim that the fibre is as warm as down feather, but

\_\_\_\_\_ (Answer: much) thinner and more durable. To test their claim, they knitted a sweater with the fibre and measured its thermal performance. They also tested the fiber's strength and stretchability. The researchers say that the fibre could have many applications, especially for making clothing for extreme cold environments. They suggest that the fibre could be used for military uniforms, space suits, and winter sports. They also say that the fibre is eco-friendly and biodegradable. However, not everyone is \_\_\_\_\_ (Answer: convinced) by the researchers' claims. Some experts have criticized the lack of data and details in their paper. They say that more research and comparison are needed to \_\_\_\_\_ (Answer: verify) the fiber's advantages.

Choices:

1. tend, stretch, survive, confirm
2. calculates, pastes, mimics, requests
3. more, too, much, such
4. preferred, refused, convinced, suspected
5. expose, verify, appear, consent

Communication is not just about what you say, but how you say it. Your tone of voice in communication can make or break your relationships, your career and your life. According to a study by researchers from the University of Southern California, the tone of voice in communication is a better \_\_\_\_\_ (Answer: predictor) of relationship success than the actual words or behaviours of the partners. Your tone of voice in communication is \_\_\_\_\_ (Answer: composed) of four elements: pitch, pace, volume and modulation. These elements \_\_\_\_\_ (Answer: convey) your attitude, emotion and intention to your listener. By being mindful of these elements, you can watch your tone and use it to achieve your goals. \_\_\_\_\_ (Answer: Whether) you want to build rapport, make connections, influence others or get what you want, your tone of voice in communication can help you do that.

Choices:

1. symptom, heritage, narrator, predictor
2. composed, concentrated, reduced, organized
3. commence, reminisce, displace, convey
4. Due to, Unless, Whether, No matter

Many people struggle with feeling like frauds, even when they have achieved success and recognition in their fields. This phenomenon, known as imposter syndrome, can \_\_\_\_\_ (Answer: undermine) one's confidence and prevent one from pursuing new opportunities. Imposter syndrome is not an official diagnosis, but it affects around 25 to 30 percent of high achievers and 70 percent of adults at \_\_\_\_\_ (Answer: some) point in their lives. Imposter syndrome is driven by personality traits such as self-efficacy, perfectionism, and neuroticism, as well as

\_\_\_\_\_ (Answer: competitive) environments that create pressure and expectations. People with imposter syndrome tend to \_\_\_\_\_ (Answer: attribute) their accomplishments to external or transient factors, such as luck, timing, or effort, rather than their own abilities and talents. They also fear making mistakes and being exposed as incompetent or unintelligent. To overcome imposter syndrome, experts suggest \_\_\_\_\_ (Answer: acknowledging) one's expertise and achievements, focusing on one's own goals and standards, expecting to learn from errors, and seeking support from mentors and peers who have faced similar challenges. By confronting imposter syndrome, one can unlock their full potential and enjoy their success with confidence.

Choices:

1. deluded, penitent, innate, competitive
2. such, every, some, all
3. trace, apply, credit, attribute
4. acknowledging, excusing, craving, weaving

The cognitive score of people in the study who ate the most flavanols declined 0.4 units per decade more slowly than those who ate the fewest flavanols. The results held even after \_\_\_\_\_ (Answer: adjusting) for other factors that can affect memory, such as age, sex and smoking, according to the study recently published in Neurology, the medical journal of the American Academy of Neurology. Flavanols are cytoprotective, meaning they protect cells, including neurons, so it's \_\_\_\_\_ (Answer: plausible) there could be a direct impact on cognition. Plants contain over 5,000 flavonoid compounds, which play roles in producing cell growth, fighting environmental stress and attracting insects for pollination. Flavanols, a type of flavonoid, have been shown in animal and some human studies to reduce inflammation, a major \_\_\_\_\_ (Answer: trigger) for chronic disease, and are rich sources of antioxidants. They may also be a marker of better overall diet quality, or even greater health \_\_\_\_\_ (Answer: consciousness). People who are more health conscious may do things to preserve their cognition, or maybe being more health conscious is a by-product of better cognition.

Choices:

1. consulting, adjusting, automation, advertising
2. irresistible, purposeful, plausible, detrimental
3. nuance, module, fact, trigger
4. intervention, cognition, protection, consciousness

Rosalind Franklin was an English scientist born in 1920. She was brilliant at using X-ray crystallography, a method to see the tiny details of molecular structures. Franklin's most famous

work was on the DNA molecule, which \_\_\_\_\_ (Answer: carries) our genetic information. In the early 1950s, she took a picture known as Photo 51. This image was key to understanding the DNA structure, but Franklin's contribution was not \_\_\_\_\_ (Answer: fully) recognized at the time. Two other scientists, Watson and Crick, used Franklin's findings to build a model of DNA's double helix structure. They won a Nobel Prize for this, but Franklin did not share in the honor because Nobel Prizes are not awarded posthumously, and she had passed away by \_\_\_\_\_ (Answer: then). Today, we remember Franklin for her critical role in discovering the DNA structure and her \_\_\_\_\_ (Answer: pioneering) work in science.

Choices:

1. targets, carries, claims, invents
2. solely, fully, eagerly, additionally
3. there, then, that, soon
4. derivative, augmented, pioneering, mandatory

The clock is ticking relentlessly. Climate change is no longer a distant threat; its effects are being felt worldwide, manifesting in rising sea levels, extreme weather events, and disrupted ecosystems. The scientific community is united in its call for immediate \_\_\_\_\_ (Answer: action) to curb greenhouse gas emissions and mitigate the worst possible impacts. Yet, political inaction and conflicting interests continue to \_\_\_\_\_ (Answer: pose) significant challenges. Time is not a luxury we can \_\_\_\_\_ (Answer: afford). This isn't just about protecting polar bears or saving glaciers; it's about safeguarding the future of humanity and the planet we call home. We must act \_\_\_\_\_ (Answer: decisively), collectively, and now. Every individual, every community, every nation has a role to play in this critical race against time. It's not about who gets the credit, but about ensuring there's a future to even have credit for. From shifting towards renewable energy and sustainable practices to holding our leaders accountable and fostering public awareness, each action, \_\_\_\_\_ (Answer: however) small, contributes to the greater effort. This race against time may seem daunting, but remember, even the smallest steps, when taken together, can lead to giant leaps forward.

Choices:

1. activation, action, activity, act
2. pose, appear, cover, consist
3. compel, afford, regard, draw
4. decisively, mainly, solely, perfectly
5. whatever, significantly, easily, however

Australia and New Zealand have many common links. Both countries were recently settled by Europeans, are predominantly English speaking and in that sense, share a common cultural \_\_\_\_\_ (Answer: heritage). Although in close proximity to one another, both countries are



geographically isolated and have small populations by world \_\_\_\_\_ (Answer: standards). They have similar histories and enjoy close relations on many fronts. In terms of population \_\_\_\_\_ (Answer: characteristics), Australia and New Zealand have much in common. Both countries have minority indigenous populations, and during the latter half of the 20th century have seen a steady stream of migrants from a variety of regions throughout the world. Both countries have \_\_\_\_\_ (Answer: experienced) similar declines in fertility since the high levels recorded during the baby boom, and alongside this have enjoyed the benefits of continually improving life expectancy. One consequence of these trends is that both countries are faced with an ageing population, and the \_\_\_\_\_ (Answer: associated) challenge of providing appropriate care and support for this growing group within the community.

Choices:

1. heritage, asset, appearance, prestige
2. statistics, standards, authorities, records
3. senses, characteristics, aspects, directions
4. experienced, expected, compensated, estimated
5. associated, favourable, comprehensive, irrevocable

A new study published in Cell Reports reveals that oral \_\_\_\_\_ (Answer: exposure) to nanoplastics, or plastic particulates smaller than 500 nanometers, can affect brain function in mice by inducing inflammation in the gut. The researchers found that nanoplastics were more readily taken up by macrophages in the intestines than larger microplastics, and triggered the production of a pro-inflammatory cytokine. This cytokine then affected the brain through the gut-brain axis, resulting in cognitive and memory impairments. The authors hope that their findings will raise \_\_\_\_\_ (Answer: awareness) of the potential health risks of nanoplastic pollution, which is a growing environmental concern. They estimate that humans consume about 5 grams of plastic per week, \_\_\_\_\_ (Answer: equivalent) to a credit card. The study adds to the growing body of evidence that microplastics and nanoplastics can have \_\_\_\_\_ (Answer: adverse) effects on various biological systems, including the reproductive, immune, endocrine, and nervous systems. Previous studies have shown that aquatic species and laboratory animals in contact with plastic particulates exhibit neurotoxicity and endocrine \_\_\_\_\_ (Answer: disruption). The authors also note that microplastics have been detected in human tissues, highlighting the need for more research on the impact of plastic pollution on human health.

Choices:

1. compensation, data, awareness, access
2. the equivalence, its equivalence, equivalent, that equivalent
3. neutral, adverse, flawed, declining
4. controversy, disruption, stability, labor

In a groundbreaking experiment, NASA has successfully sent a 15-second video of an orange tabby cat named Taters chasing a laser pointer dot in ultra-HD. The video travelled almost 19 million miles

from a probe back to Earth. This was part of a NASA experiment to test the possibility of sending streaming video through deep space, \_\_\_\_\_ (Answer: using) a laser-based communication system called Deep Space Optical Communications (DSOC). The video was added to the Psyche probe, which was \_\_\_\_\_ (Answer: launched) in October on a six-year mission to visit an asteroid. On December 11, it sent the video back to Earth in just 101 seconds. This marked a significant achievement in the field of space communication, demonstrating the \_\_\_\_\_ (Answer: potential) of laser technology in transmitting data across vast distances in space. The implications of this experiment are far-reaching. It has set a precedent for future space missions, opening up the possibility of transmitting broadband video across millions of miles. This could significantly enhance our capabilities in space exploration and scientific research, facilitating more \_\_\_\_\_ (Answer: ambitious) missions in the future.

Choices:

1. as using, to use, using, use
2. initiated, established, proved, launched
3. range, probability, potential, extent
4. rudimentary, maximum, overall, ambitious

The Achaemenid Dynasty heralded the rise of the Persian Empire, \_\_\_\_\_ (Answer: ascending) to prominence under Cyrus the Great around 550 BCE. This vast empire, renowned for its exceptional administrative systems and cultural diversity, sprawled across three continents, from the Indus Valley to the fringes of Greece, encompassing Egypt and touching the steppes of Central Asia. Its innovative imperial governance, characterized by the satrapy system, allowed for local autonomy and integration of a \_\_\_\_\_ (Answer: multitude) of cultures, languages, and religions. The Royal Road, stretching over 2,000 miles, \_\_\_\_\_ (Answer: facilitated) unprecedented communication and commerce throughout the empire. Darius I's creation of a standardized currency, the daric, \_\_\_\_\_ (Answer: further) unified economic transactions across its extensive territories. Esteemed for their tolerance and diplomatic acumen, Persian kings established paradigms of rule that influenced \_\_\_\_\_ (Answer: subsequent) empires for generations. Persian society was illuminated by opulent architecture, vivid gardens, and advancement in sciences, which became the empire's enduring legacy.

Choices:

1. directing, staging, ascending, stumbling
2. construction, separation, magnitude, multitude
3. scattered, united, aimed, facilitated
4. so, moreover, wherein, further
5. subsequent, explicit, permanent, trivial

Born in 1463 in Milan, Italy, Caterina Sforza was a remarkable woman whose life defied societal norms of her time. She was not only a skilled military strategist but also a formidable political

\_\_\_\_\_ (Answer: figure) in her own right. Often referred to as the "Tigress of Forlì," Caterina was known for her daring and resilience in defending her family's territories. Her life was marked by turbulent events, including daring sieges, political intrigues, and a fierce \_\_\_\_\_ (Answer: determination) to protect her family's honour and legacy. Though her name may not be as widely recognized as some of her \_\_\_\_\_ (Answer: contemporaries), Caterina Sforza's legacy endures as a symbol of a strong and independent woman who defied the constraints of her era. Caterina's was also a patron of the arts and played a pivotal role in promoting cultural and artistic endeavours in the cities under her control. Her court was a hub of intellectual activity, where artists and scholars found inspiration and support. Caterina Sforza's life stands as a remarkable example of the resilience of those who dared to challenge societal norms and \_\_\_\_\_ (Answer: carve) out their own paths during the vibrant era of the 15th century Renaissance, even in the face of formidable \_\_\_\_\_ (Answer: obstacles) and risks.

Choices:

1. figure, colleague, human, volume
2. prevention, determination, authorship, bulk
3. vendors, followers, contemporaries, codes
4. carving, carves, had carved, carve
5. resources, excuses, substitutes, obstacles

Explain the following text primarily based on the surrounding page content: In the last years of the wheat boom, Bennett had become increasingly \_\_\_\_\_ (Answer: frustrated) at how the government seemed to be encouraging an \_\_\_\_\_ (Answer: exploitative) farming binge. He went directly after the Department of Agriculture for \_\_\_\_\_ (Answer: misleading) people. Farmers on the Great Plains were working \_\_\_\_\_ (Answer: against) nature, he \_\_\_\_\_ (Answer: thundered) in speeches.

Choices:

1. frustrated, familiar, structured, satisfied
2. exploitative, experimented, explored, sustainable
3. guiding, misunderstanding, misleading, caring
4. in, against, with, for
5. expressed, sang, praised, thundered

Gas drilling on the Indonesian of java has \_\_\_\_\_ (Answer: triggered) a "mud volcano" that has killed 13 people and may render four square miles (ten square kilometres) of countryside uninhabitable for years. In a report released on January 23, a team of British researchers says the deadly \_\_\_\_\_ (Answer: upwelling) began when an exploratory gas well punched through a layer of rock 9300 feet (2800 meters) below the surface, \_\_\_\_\_ (Answer: allowing) hot, high-pressure water to \_\_\_\_\_ (Answer: escape). The water \_\_\_\_\_ (Answer: \_\_\_\_\_)

carried) mud to the surface, where it has \_\_\_\_\_ (Answer: spread) across a region 2.5 miles (4 kilometres) in \_\_\_\_\_ (Answer: diameter) in the eight months since the eruption began. The mud volcano is similar to a gusher or blowout, which occurs in oil drilling when oil or gas squirt to the surface, the team says. This upwelling, however, spews out a volume of mud equivalent to a dozen Olympic swimming pools each day. Although the eruption isn't as violent as a \_\_\_\_\_ (Answer: conventional) volcano, more than a dozen people died when a natural gas pipeline ruptured. The research team, who published their findings in the February issue of GSA Today, also estimate that the volcano, called Lusi, will leave more than 11,000 people permanently displaced.

Choices:

1. triggered, created, motivated, asked
2. downwelling, upwelling, downside, inside
3. serving, healing, allowing, noting
4. extract, explode, hide, escape
5. leaved, carried, brought, narrowed
6. polluted, covered, spread, travelled
7. detail, all, diameter, conclusion
8. old-fashioned, updated, upgraded, conventional

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 maximise public transport \_\_\_\_\_ (Answer: patronage) and encourage walking and cycling. Also, this city can reduce the \_\_\_\_\_ (Answer: consumption) 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 \_\_\_\_\_ (Answer: comparable) areas. It is also concluded that lack of housing supply will affect \_\_\_\_\_ (Answer: affordability) in Sydney.

Choices:

1. patron, patronizing, patronize, patrons, patronage
2. consumption, consumed, consume, consuming, consumable
3. comparison, compared, compare, comparing, comparable
4. affording, afford, affordable, afforded, affordability

Coconut crabs spend most of their lives on land, but they start out in the ocean. On the new moon, a female coconut crab \_\_\_\_\_ (Answer: deposits) larvae (which she's been carrying around in her abdomen since they were just fertilized eggs) into the ocean, and the babies \_\_\_\_\_ (Answer: float) around in the currents for a month or so before dropping to the seafloor and finding nice, cozy snail shells to move into. Just like your childhood hermit crab friend, young coconut crabs

move in and out of shells as they \_\_\_\_\_ (Answer: bulk) up and get used to living on land. Sometimes a juvenile coconut crab will use a coconut husk or empty sea shell as \_\_\_\_\_ (Answer: armor) until its own shell gets harder. After about a year, the teens of the species eventually find there are no shells left on the beach large enough to \_\_\_\_\_ (Answer: accommodate) their bulk, so they move out altogether. From here on out, they live the rest of their lives out of the water — coconut crabs will drown if totally submerged.

Choices:

1. deposits, discards, consumes, flaunts
2. bloat, afloat, float, gloat
3. follow, bulk, brush, sum
4. fellow, assistant, trophy, armor
5. abrogate, affiliate, approximate, accommodate

A total solar eclipse is a rare and spectacular phenomenon that occurs when the moon \_\_\_\_\_ (Answer: blocks) the sun's light completely, creating a brief period of darkness in the middle of the day. On 8 April 2024, people in North America will have a chance to \_\_\_\_\_ (Answer: witness) this amazing event, as the path of totality - the area \_\_\_\_\_ (Answer: where) the eclipse is visible - will stretch from Mexico to Canada, crossing 13 US states. To enjoy the full experience of the eclipse, viewers need to know where and when to look, as well as how to protect their eyes from the sun's harmful rays. The eclipse will \_\_\_\_\_ (Answer: last) for about 3 hours, but the totality will only be for about 4 minutes, depending on the location. During this time, the temperature will drop, the sky will darken, and stars and planets will appear. There will also be other phenomena to observe, such as strange shadows, diamond rings, and the sun's corona. A total solar eclipse is a once-in-a-lifetime opportunity that should not be \_\_\_\_\_ (Answer: missed) by anyone who loves astronomy and nature.

Choices:

1. blocks, diffuses, transmits, magnifies
2. derive, highlight, witness, drive
3. which, what, there, where
4. pause, last, end, recur
5. missed, anticipated, viewed, celebrated

Both historically and currently, many businesses do not follow the marketing concept. For many years, companies such as Texas Instruments and Otis Elevator have followed a product \_\_\_\_\_ (Answer: orientation), in which the primary organizational focus is technology and innovation. All parts of these organizations invest heavily in building and showcasing impressive features and product \_\_\_\_\_ (Answer: advances), which are the areas in which these companies prefer to compete. This approach is also known as the product concept.



Rather than focusing on a deep understanding of customer needs, these companies assume that a technically \_\_\_\_\_ (Answer: superior) or less expensive product will sell itself. While this approach can be very \_\_\_\_\_ (Answer: profitable), there is a high risk of losing touch with what customers actually want. This leaves product-oriented companies vulnerable to more customer-oriented competitors.

Choices:

1. temptation, orientation, documentation, consultation
2. advances, circumstances, allowances, tolerances
3. inferior, interior, superior, ulterior
4. profitable, insurmountable, comfortable, transmittable

Young-onset dementia (YOD) is a form of dementia that affects people under the age of 6. It is a devastating condition that has a significant impact on the quality of life of the \_\_\_\_\_ (Answer: affected) individuals and their families. However, the risk factors and prevention strategies for YOD are not well understood. A recent analysis of data from the UK Biobank, a large biomedical database, identified 15 key \_\_\_\_\_ (Answer: factors) that could increase the risk of developing YOD. These factors include genetic, environmental, lifestyle, and health-related factors, such as lower education, lower socioeconomic status, alcohol use disorder, depression, diabetes, heart disease, and stroke. Some of these factors are modifiable and/or preventable, meaning that they can be changed or avoided by \_\_\_\_\_ (Answer: adopting) healthy habits. For example, physical exercise, a Mediterranean-based diet, cognitive stimulation, mood regulation, and social interaction can all help lower the risk of YOD. By addressing these early on, it may be possible to prevent or delay the onset of YOD and improve the \_\_\_\_\_ (Answer: outcomes) for the affected individuals and their families. Choices:

1. effective, affective, affected, effected
2. locks, standards, factors, roles
3. adopting, dominating, leading, varying
4. outcomes, categories, repercussions, findings

Freud's psychosexual theory, leaving questions about its validity, is necessary to be tested scientifically. \_\_\_\_\_ (Answer: However), he never did experiments. Another concern is that the theory is based on case studies versus research. Some have issues with Freud's theory being focused more on male psychosexual development, \_\_\_\_\_ (Answer: offering) very little insight into females. It also refers to homosexual preferences as a deviation of normal psychosexual development, though many psychologists \_\_\_\_\_ (Answer: today) feel that sexual orientation is more biological in nature and Freud's theory is \_\_\_\_\_ (Answer: one-sided).

Choices:

1. Whatever, Therefore, However, Besides
2. offers, offered, offer, offering

3. then, now, to, today
4. right, prolific, wrong, one-sided

Emerging in the mid-1950s in Britain and late 1950s in America, pop art reached its peak in the 1960s. It began as a revolt \_\_\_\_\_ (Answer: against) the dominant approaches to art and culture and traditional views on what art \_\_\_\_\_ (Answer: should be). Young artists felt that what they were taught at art school and what they saw in museums did not have anything \_\_\_\_\_ (Answer: to do with) their lives or the things they saw around them every day. Instead, they \_\_\_\_\_ (Answer: turned to) sources such as Hollywood movies, advertising, product packaging, pop music and comic books for their imagery.

Choices:

1. against, along, with, within
2. be, should be, has been, would be
3. relevant in, familiar with, to do with, about
4. mustered up, relevant in, turned to, reckoned on

The three-body problem is one of the oldest and most challenging puzzles in physics, \_\_\_\_\_ (Answer: dating back) to the 17th century. It involves determining the motion of three bodies that interact with each other through gravity or other forces, such as the Earth, the Moon, and the Sun. The problem is \_\_\_\_\_ (Answer: notoriously) difficult to solve, as even small changes in the initial conditions can lead to unpredictable and chaotic behaviour. To test the Flux theory, the researchers conducted \_\_\_\_\_ (Answer: extensive) computer simulations, tracking millions of scattering events in three-body systems. They were able to measure the chaotic emissivity function and compare it with the flux-based prediction for the chaotic outcome distribution. The results showed a remarkable agreement, with an accuracy of 6% across the entire two-dimensional space of variables \_\_\_\_\_ (Answer: examined). The flux-based theory represents a significant advancement in chaos theory, as it offers a more efficient and precise method for calculating chaotic outcome distributions in three-body systems. The theory can also pave the way for further research and discovery in the \_\_\_\_\_ (Answer: realm) of physics.

Choices:

1. dating back, running across, taking off, ruling out
2. closely, implicitly, notoriously, arrogantly
3. expanded, expensive, extensive, exclusive
4. deducted, proposed, examined, spread
5. realm, survey, region, margin



# REORDER PARAGRAPHS

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## Some Type Soda

- 1) 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.
- 2) A reaction that needs some type of energy to make it go is said to be endothermic. It takes in energy.
- 3) When it is mixed with water in your mouth, an endothermic reaction occurs, taking heat energy from your mouth and making it feel cooler.
- 4) For example, the sherbet you used for the chapter problem on page 25 is a mixture of baking soda and citric acid.
- 5) 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 as an ice pack.

Answer: 2,4,3,1,5

## Pilot

- 1) After finishing first in his pilot training class, Lindbergh took his first job as the chief pilot of an airmail route operated by Robertson Aircraft Co. of Lambert Field in St. Louis, Missouri.
- 2) After a crash, he even salvaged stashes of mail from his burning aircraft and immediately phoned Alexander Varney, Peoria's airport manager, to advise him to send a truck.
- 3) He flew the mail in a de Havilland DH-4 biplane to Springfield, Peoria and Chicago, Illinois.
- 4) During his tenure on the mail route, he was renowned for delivering the mail under any circumstances.

Answer: 4,1,3,2

## Study Abroad

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

Answer: 5,4,3,2,1

## Street Food

- 1) Over time, street food has gained popularity among all social classes.
- 2) As a result, it now represents an essential element of urban culture and gastronomy.

- 3) Initially, it was a way for low-income individuals to afford meals.
- 4) Street food has become a global phenomenon, reflecting the diversity of cultures and cuisines.

Answer: 4,3,1,2

### Renewable Energy

- 1) This shift is crucial in mitigating the impacts of climate change and ensuring a sustainable energy future.
- 2) But ongoing innovations have significantly reduced these barriers, making renewables increasingly competitive with traditional fossil fuels.
- 3) In recent years, renewable energy sources such as solar, wind, and hydroelectric power have seen remarkable growth.
- 4) Initially, high costs and technological limitations slowed their adoption.

Answer: 3,4,2,1

### Globalization

- 1) Yet, this trend also challenges traditional food industries to innovate and adapt to changing consumer preferences.
- 2) This curiosity has led to a rise in ethnic restaurants and food festivals.
- 3) Globalization has increased the popularity of international cuisines.
- 4) People are now more adventurous in their food choices, exploring dishes from different cultures.

Answer: 3,4,2,1

### Technological Innovation

- 1) Technological innovation has led to the evolution of the pencil.
- 2) For instance, mechanical pencils, which use refillable lead, offer convenience and reduce waste associated with traditional pencils.
- 3) However, traditional wooden pencils still hold a special place for their simplicity and nostalgic value.
- 4) Such advancements cater to a modern audience that values sustainability and efficiency.

Answer: 1,2,4,3

### Airplanes

- 1) Therefore, the efficiency and speed of air cargo are vital in our increasingly interconnected global economy.
- 2) This is especially important for time-sensitive products like perishable foods and medical supplies.
- 3) They provide the fastest way to ship goods over long distances.
- 4) Airplanes play a critical role in global cargo transportation.

Answer: 4,3,2,1



### Food Waste

- 1) In response, efforts to reduce food waste are increasing, involving better supply chain management and consumer education.
- 2) Moreover, much of the food produced worldwide is never consumed.
- 3) Consequently, addressing this issue is not only ethically important but also crucial for achieving global food security and sustainability.
- 4) Food waste is a growing global issue, and it has significant environmental and economic impacts.

Answer: 4,2,1,3

### Green Architecture

- 1) However, the initial investment in green technologies can be higher compared to traditional construction methods.
- 2) Green architecture focuses on minimizing the environmental impact of buildings.
- 3) It incorporates energy-efficient systems, renewable energy sources, and green roofs.
- 4) These practices not only reduce the carbon footprint but also can lead to cost savings over time.

Answer: 2,3,4,1

### Wheat

- 1) It is a staple food in many cultures, providing a significant source of carbohydrates and proteins.
- 2) Wheat is one of the oldest and most widely cultivated crops in the world.
- 3) Moreover, wheat is used in a variety of products, from bread to beer.
- 4) Conversely, wheat cultivation requires substantial water and is sensitive to climate changes, posing challenges in certain regions.

Answer 2, 1, 3, 4

### Seasonal Changes

- 1) Subsequently, they bloom in spring when conditions are more favorable.
- 2) Yet, climate change is altering these seasonal cycles, impacting plant growth and survival.
- 3) In temperate regions, many plants undergo a dormant period in winter.
- 4) This cycle allows plants to conserve energy during harsh conditions.
- 5) Seasonal changes significantly affect plant life.

Answer: 5,3,1,4,2

### Urban Landscaping

- 1) This is because green spaces in cities can reduce pollution and improve air quality.

- 2) Urban landscaping often incorporates plants for aesthetic and environmental benefits.
- 3) They also provide habitats for urban wildlife and areas for recreation.
- 4) However, urban planting requires careful selection of species that can thrive in urban environments and withstand pollution.

Answer: 2,1,3,4

### Balanced Diet

- 1) Additionally, many fruits are high in antioxidants, which combat free radicals in the body.
- 2) Fruits are a vital part of a balanced diet, offering essential vitamins and minerals.
- 3) They provide a rich source of dietary fiber, which aids in digestion.
- 4) Nevertheless, some fruits are high in natural sugars, requiring moderation in consumption for certain individuals.

Answer: 2,3,1,4

### Banana Production

- 1) Nowadays, the environmental impact of banana production is a growing concern.
- 2) In response, there is an increasing shift towards organic banana farming practices.
- 3) Additionally, intensive banana farming often involves heavy use of pesticides and fertilizers, contributing to soil and water pollution.
- 4) As bananas require a lot of water to grow, this can lead to water scarcity in some regions.

Answer: 1,4,3,2

### Book Reviews

- 1) Thus, both reviews and criticism play vital roles in the dialogue surrounding books and literature.
- 2) On the one hand, reviews in newspapers, magazines, and online platforms guide readers' choices and can influence a book's popularity.
- 3) The role of book reviews and literary criticism is significant in the literary world.
- 4) On the other hand, literary criticism offers deeper analysis and contextual understanding of texts.

Answer: 3, 2, 4, 1

### Fruit Orchards

- 1) Fruit orchards are specialized plantations dedicated to the cultivation of fruit trees.
- 2) The selection of fruit varieties is crucial, considering factors like climate, soil type, and market demand.

- 3) As a result, an orchard's productivity and profitability largely depend on these initial choices.
- 4) They are meticulously organized for efficient growth and harvesting.

Answer: 1,4,2,3

### Bats

- 1) This adaptation allows them to maneuver in the air with remarkable agility.
- 2) Bats are unique among mammals for their ability to fly.
- 3) However, because of their nocturnal habits and silent flight, bats are often misunderstood and feared by humans.
- 4) Their wings are actually modified arms and hands, with skin stretched between elongated finger bones.

Answer: 2,4,1,3

### Water Cycle

- 1) When these clouds become heavy enough, precipitation occurs in the form of rain or snow, replenishing water in the earth's ecosystems.
- 2) This water vapor condenses into clouds, which travel across the globe.
- 3) This cycle is vital for sustaining life on Earth, but it is being disrupted by climate change, affecting weather patterns and water availability.
- 4) The sun's heat causes water from oceans, lakes, and rivers to evaporate into the air.

Answer: 4,2,1,3

### French Revolution

- 1) Sparked by social and economic inequality, it led to the overthrow of the monarchy and the rise of democracy.
- 2) The French Revolution, beginning in 1789, dramatically transformed France and influenced global politics.
- 3) Consequently, this event inspired numerous other revolutions and political changes worldwide.
- 4) Hence, the French Revolution is seen as a significant event that spread the ideals of liberty, equality, and fraternity.

Answer: 2,1,3,4

### African Tribal Masks

- 1) Crafted to represent animals, deities, or ancestral spirits, they embody the values and stories of the community.
- 2) Moreover, the creation and use of these masks vary significantly across different African cultures.
- 3) Therefore, they are celebrated not only as artistic creations but also as symbols of cultural identity and history.
- 4) African tribal masks, vital to the continent's diverse cultural heritage, serve religious, social, and artistic functions in various ceremonies.

Answer: 4,1,2,3

## Central Banks

- 1) For example, they can adjust interest rates to influence economic activity.
- 2) Central banks play a crucial role in a country's economy, managing the monetary policy and overseeing the banking system.
- 3) Their primary goal is to maintain financial stability and control inflation.
- 4) Additionally, central banks act as lenders of last resort during financial crises.

Answer: 2,3,1,4

## Human Digestive System

- 1) It then travels to the stomach and intestines, where further digestion and nutrient absorption occur.
- 2) The human digestive system is designed to break down food and absorb nutrients.
- 3) This process begins in the mouth, where food is mechanically broken down by chewing and chemically by saliva.
- 4) However, problems like poor diet and diseases can disrupt this process, leading to health issues.

Answer: 2,3,1,4

## Nabataeans

- 1) Additionally, how the Nabataeans carved such elaborate structures directly into the rock is not entirely understood.
- 2) Its intricate water conduit system is an engineering marvel.
- 3) The purpose of this system remains shrouded in mystery.
- 4) The ancient city of Petra, carved into the rose-red cliffs of Jordan, was the capital of the Nabataean Kingdom.

Answer: 4,2,3,1

## Pyramids of Giza

- 1) Some theories suggest they were built using a system of ramps and manual labor.
- 2) The Pyramids of Giza in Egypt have long fascinated archaeologists and historians.
- 3) However, the exact methods are still debated, as the alignment and precision seem too advanced for the time.
- 4) Built as tombs for the pharaohs, their precise construction techniques remain a mystery.

Answer: 2,4,1,3

## Advances in Technology

- 1) This has transformed the way we communicate and interact with others.
- 2) In the past, communication was limited to written letters and face-to-face conversations.

- 3) Advances in technology have made it possible to connect with people around the world instantly.
- 4) Nowadays, we can send messages, make video calls, and share information with just a few clicks.

Answer: 3,4,2,1

### Global Weather Patterns

- 1) Consequently, food prices worldwide are rising, affecting the economic stability of several countries.
- 2) These extreme events lead to a decrease in agricultural productivity, particularly in areas already vulnerable to food scarcity.
- 3) Climate change is significantly impacting global weather patterns.
- 4) As a result, many regions are experiencing more extreme weather events, such as hurricanes and droughts.

Answer: 3,4,2,1

### Remote Work

- 1) Remote work has become increasingly popular in recent years, and its benefits are numerous.
- 2) Moreover, it can improve work-life balance by eliminating the need for long daily commutes.
- 3) Additionally, it offers flexibility for both employers and employees, allowing them to work from various locations.
- 4) Furthermore, remote work has the potential to reduce commuting time and related expenses.

Answer: 1,2,4,3

### Discovery of Penicillin

- 1) This accidental discovery occurred when Fleming noticed that a mold, *Penicillium notatum*, had contaminated his Petri dishes and killed the surrounding bacteria.
- 2) Penicillin's success led to the research and creation of more antibiotics, revolutionizing the treatment of various infectious diseases.
- 3) Consequently, the widespread use of antibiotics has significantly reduced mortality rates and changed the landscape of healthcare.
- 4) The discovery of penicillin by Alexander Fleming in 1928 marked a turning point in medical history.
- 5) The development and mass production of penicillin during World War II saved countless lives by effectively treating bacterial infections.

Answer: 4,1,5,2,3

### Crab

- 1) 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.



- 2) Scientists at Queen's University in Belfast now think that crustaceans may be more sensitive to pain than previously thought.
- 3) 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.
- 4) Until recently many researchers believed the crustacean nervous system too primitive to process pain.

Answer: 3,4,2,1

### Deserts

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

Answer: 3,1,4,2

### Mindfulness Meditation

- 1) In recent years, research has shown that mindfulness meditation can have a positive impact on mental health.
- 2) Mindfulness meditation has its roots in ancient Buddhist traditions and has gained popularity in Western cultures as a way to improve well-being.
- 3) Many people find that incorporating mindfulness into their daily routines helps reduce stress and anxiety.
- 4) The practice involves focusing on the present moment, acknowledging thoughts and feelings without judgment, and cultivating a sense of calm and awareness.

Answer: 2,4,1,3

### Boring Job

- 1) However, any employee who wants to acquire more varied and responsible duties will not feel satisfied for long staying with the same and boring job.
- 2) Numbers of staff who wish to turn up and do a simple job and go home is relatively happy if they believe their work is secure.
- 3) If this opportunity does not exist, they are most likely to be demotivated.
- 4) People want to keep working hard only if there are opportunities for promotion to a more challenging job.

Answer: 2,1,4,3

### Plastic Pollution

- 1) Single-use plastics, such as plastic bags and disposable bottles, are a major contributor to this crisis.

- 2) In recent years, governments and organizations worldwide have been taking steps to reduce plastic waste and promote recycling.
- 3) This problem is exacerbated by the fact that plastic is non-biodegradable and can persist in the environment for hundreds of years.
- 4) Plastic pollution poses a significant threat to our environment, affecting marine life, ecosystems, and human health.

Answer: 4,1,3,2

## Darwin

- 1) 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.
- 2) His paternal grandfather was Erasmus Darwin, a famous scientist who came up with his own theory of evolution, while his maternal grandfather was Josiah Wedgwood, of pottery fame.
- 3) Charles Darwin was born on 12 February 1809 into a rich and powerful family.
- 4) 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 Beagle, a naval surveying ship bound for the farthest corners of the globe.
- 5) 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.

Answer: 3, 2, 1, 4, 5

## Becoming a Doctor

- 1) You have the option to follow the undergraduate route as a school leaver: you finish your A-Levels, apply to a university offering Medicine, and then go to medical school.
- 2) For example, many medical students take a gap year after completing their A-Levels before starting medical school.
- 3) However, this is not always the journey that most medical students follow.
- 4) Instead, think about the journey as one that has many different stages and routes that you can follow.
- 5) You need to know that the road to becoming a doctor is not a straightforward journey you can easily progress through.

Answer: 5,4,1,3,2

## Biography

- 1) The research may be from a direct interview or, if the subject has passed away, from primary sources and interviews with close friends and family members.
- 2) A biography is a third-person account of another person's life story.
- 3) Biographers need to conduct in-depth and accurate research before starting to write one biography.
- 4) It typically includes the person's important facts and life-changing moments or events.

Answer: 2,4,3,1

### Scope of Research

- 1) For example, if the researcher is interested in dog owners' interactions with their dogs, they might tally the number of times the owner talks to their dog during a walk.
- 2) While they may want to study everything about the people in the chosen setting, this may not be realistic given the complexities of human behavior.
- 3) As a result, the researchers must focus observations on the specific behaviors and responses they are most interested in studying.
- 4) Before going into the field, researchers must define the scope of their research.

Answer: 4,2,3,1

### Mona Lisa

- 1) There are a number of reasons behind this work's enduring fame.
- 2) But have you ever wondered just why the Mona Lisa is so famous?
- 3) The Mona Lisa is perhaps the most recognizable piece of art in the world
- 4) Together they create a fascinating story that has survived through the ages.

Answer: 3,2,1,4

## READING FILL IN THE BLANKS

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The Australian Maritime College at the University of Tasmania, in \_\_\_\_\_ (Answer: partnership) with CSIRO and University of Queensland, have been awarded \$2.49 million in \_\_\_\_\_ (Answer: support) for their new project that is set to attract and underpin investment in tidal energy in Australia. The project hopes to overcome barriers to investment in commercial-scale tidal farms in Australia by mapping the country's tidal energy in more \_\_\_\_\_ (Answer: detail) than ever before.

Choices: overview, compromise, support, isolation, detail, partnership

When that happens, staff will help the person — \_\_\_\_\_ (Answer: strung) out and now a little stressed — fish their drugs out of the rubbish. On their way out, they might have a blood test, their first \_\_\_\_\_ (Answer: dental) check-up in years, or just a hot cup of Milo. "We enable people to inject in the centre because that's what they do," the medical director, Nico Clark, tells *Guardian Australia* during a recent visit to the North Richmond Community Health Centre. "The majority are dependent on their \_\_\_\_\_ (Answer: substances). The purpose is not to be a place that facilitates injection per se. The \_\_\_\_\_ (Answer: purpose) is to keep people alive." The center is a response to a coroner's report that noted the heroin-related deaths in the area in 2016.

**Choices:** academic, purpose, matter, slung, view, substances, dental, strung

Your body is nearly two-thirds water. And so, it is really important that you \_\_\_\_\_ (Answer: consume) enough fluid to stay \_\_\_\_\_ (Answer: hydrated) and healthy. If you don't get enough fluid, you may feel \_\_\_\_\_ (Answer: tired), get \_\_\_\_\_ (Answer: headaches), and not perform at your best.

Choices: enlist, headaches, tired, varied, consume, hydrated, humble, hardness

Traditional education systems, often \_\_\_\_\_ (Answer: criticized) for their excessive focus on rote learning and standardized testing, are increasingly being reevaluated. Modern educational theorists \_\_\_\_\_ (Answer: argue) for methods that emphasize critical thinking, creativity, and practical skills. This shift reflects the need for education to \_\_\_\_\_ (Answer: adapt) to the changing demands of the 21st century, including the integration of technology and personalized learning paths.

Choices: adapt, overlapped, criticized, fund, fluctuate, argue

One \_\_\_\_\_ (Answer: distinguishing) feature of business is its economic character. In the world of business, we interact with each other not as family members, friends, or neighbours, but as buyers and sellers, employers and employees, and the like. Trading, for example, is often \_\_\_\_\_ (Answer: accompanied) by hard bargaining, in which both sides conceal their full hand and perhaps \_\_\_\_\_ (Answer: engage) in some bluffing. And a skilled salesperson is well- \_\_\_\_\_ (Answer: versed) in the art of arousing a customer's attention (sometimes by a bit of puffery) to \_\_\_\_\_ (Answer: clinch) 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.

Choices: distinguishing, compliant, engage, distribute, versed, extinct, gauge, inform, accompanied, clinch

The theme of contrast evident in *Blue Skies* is typical of Ms Vu's work. She explores organic structures using the newest technologies. She is inspired by \_\_\_\_\_ (Answer: minute) detail but often works on a large scale. Her sculptures are \_\_\_\_\_ (Answer: ambiguous), yet familiar, blurring the boundaries between the real and the artificial. Organic structures and spirals are the starting point for my creative exploration. But my work extends these concepts to explore the \_\_\_\_\_ (Answer: overlap) between the real and the artificial, and how we often don't differentiate between the two,' Ms Vu said.

Choices: high, minute, definite, ambiguous, overlap, gap

The traditional notion of an \_\_\_\_\_ (Answer: abrupt) end to one's career is giving \_\_\_\_\_ (Answer: way) to a more gradual transition into retirement. This shift reflects changes in societal norms and the \_\_\_\_\_ (Answer: blurring) of lines between different life stages. Today's retirees are redefining retirement, often pursuing new interests, part-time work, or volunteer opportunities. This evolution in retirement reflects a wider trend of valuing lifelong learning and \_\_\_\_\_ (Answer: active) engagement at all ages.

Choices: active, way, blurring, ambiguous, mode, internal

The exploration of space extends beyond the quest to visit distant planets; it's about understanding our place in the \_\_\_\_\_ (Answer: vast) universe. Astronomers and astrophysicists use cutting-edge technology to observe \_\_\_\_\_ (Answer: celestial) phenomena, from black holes to the cosmic microwave background. These explorations \_\_\_\_\_ (Answer: push) the boundaries of human knowledge and \_\_\_\_\_ (Answer: spark) our collective imagination about what lies beyond our planet.

Choices: spark, undergo, energetic, celestial, thick, push, remark, vast

With quantum computing, processing power will reach new heights, opening up new possibilities for various fields that could \_\_\_\_\_ (Answer: transform) the world. These advanced systems utilize the principles of quantum mechanics to perform calculations at speeds \_\_\_\_\_ (Answer: unattainable) by traditional computers. The capability to process



\_\_\_\_\_ (Answer: vast) amounts of data simultaneously could \_\_\_\_\_ (Answer: lead) to breakthroughs in cryptography, materials science, and complex system modelling.

Choice: unattainable, academic, vast, lead, casual, stimulate, transform, weigh

In an attempt to \_\_\_\_\_ (Answer: lure) new students, leading business schools - including Harvard, Stanford, the University of Chicago and Wharton - have moved away from the unofficial admissions \_\_\_\_\_ (Answer: prerequisite) of four years' work experience and \_\_\_\_\_ (Answer: instead) have set their sights on recent college graduates and so-called early career \_\_\_\_\_ (Answer: professionals) with only a couple years of work under their belt.

Choices: professionals, conclusion, instead, lure, juveniles, thus, prerequisite, check

Every technological leap comes with its compromises. In our \_\_\_\_\_ (Answer: quest) for advanced AI and robotics, we've encountered challenges in maintaining simplicity and user-friendliness. This phenomenon perhaps stems from the fact that most users are \_\_\_\_\_ (Answer: accustomed) to traditional interfaces, suggesting a need for \_\_\_\_\_ (Answer: balance) between innovation and usability.

Choices: balance, quest, draft, accustomed, automatic, interval

For the first time, economists conducted a controlled simulation that \_\_\_\_\_ (Answer: illustrated) how stock market fluctuations can occur seemingly without external triggers. They \_\_\_\_\_ (Answer: programmed) trading bots to buy and sell shares at a steady rate. Initially, the market was \_\_\_\_\_ (Answer: stable), but soon, variances in trade volumes emerged, causing clustered spikes and dips in stock prices. These fluctuations then \_\_\_\_\_ (Answer: propagated) across the market like a ripple, mirroring real-world market volatilities.

Choices: cheated, integral, stable, missed, propagated, programmed, drifted, illustrated

A newly constructed wildlife overpass has \_\_\_\_\_ (Answer: proven) successful in reducing animal-vehicle collisions on a busy highway. The overpass is part of a larger initiative to create safe migration \_\_\_\_\_ (Answer: routes) for wildlife, which also promotes genetic diversity by connecting animal populations that were previously \_\_\_\_\_ (Answer: segmented) by roads.

Choices: segmented, proven, beaten, yards, cracked, routes

Cryptocurrencies emerge from the digital \_\_\_\_\_ (Answer: interaction) between various encryption techniques. As many cryptocurrencies were developed during the digital \_\_\_\_\_ (Answer: age), one of the components is often a traditional currency, like the US dollar, \_\_\_\_\_ (Answer: while) the other component is a cryptographic protocol.

Typically, one provides the main transactional functionality, and the other ensures security. When cryptocurrencies become mainstream as a \_\_\_\_\_ (Answer: mode) of transaction, they might evolve into a new form of digital asset.

Choices: mode, height, interaction, category, since, consultation, age, while,

The Old Town Restoration has successfully preserved the architectural heritage of the city's most \_\_\_\_\_ (Answer: historic) district. Through meticulous restoration work, conservationists have saved \_\_\_\_\_ (Answer: numerous) buildings from decay. These efforts have not only revitalized the area but also attracted tourists \_\_\_\_\_ (Answer: eager) to experience its timeless charm.

Choices: historic, valid, eager, defensive, numerous, radical

The formation of individual and collective identities is a key subject in sociological study. Sociologists explore how identities are shaped by various \_\_\_\_\_ (Answer: factors) including culture, social structures, and personal experiences. Theories in this field examine how individuals develop a \_\_\_\_\_ (Answer: sense) of self and belonging, and how social categories like gender, race, and class influence this \_\_\_\_\_ (Answer: process). Identity formation is not static but dynamic, continuously \_\_\_\_\_ (Answer: molded) by interactions and societal changes.

Choices: appreciated, factors, molded, portion, duration, sense, process, licenses

The Internet has become humanity's most powerful tool for information \_\_\_\_\_ (Answer: exchange) and communication. However, this \_\_\_\_\_ (Answer: dominance) has its drawbacks. Traditional forms of media and interpersonal communication have been significantly \_\_\_\_\_ (Answer: altered), with some languages and dialects becoming less prevalent in the digital space. This digital revolution, spearheaded by the rise of social media and online platforms, has resulted in a constant \_\_\_\_\_ (Answer: influx) of information.

Choices: exchange, influx, altered, stability, shirked, dominance, permission, treatment

The first millennium B.C. \_\_\_\_\_ (Answer: witnessed) the rise of major trading hubs like Tyre and Sidon, which not only \_\_\_\_\_ (Answer: facilitated) the exchange of goods but also became centers for cultural and technological exchange. These trading posts were strategically \_\_\_\_\_ (Answer: located) along the coastlines, allowing for the efficient movement of goods, ideas, and people. The success of these trading routes catalysed economic growth, leading to a \_\_\_\_\_ (Answer: surge) in urbanization as ports grew into bustling cities.

Choices: derived, facilitated, witnessed, interpreted, located, surge, confidence, functioned

The \_\_\_\_\_ (Answer: convenience) of readily available food has diminished the art of cooking. In the past, cooking was a communal and creative process, \_\_\_\_\_ (Answer: bringing) families together and ensuring nutritious meals. Today's fast-paced lifestyle has led to a

\_\_\_\_\_ (Answer: reliance) on quick, often less nutritious food options, \_\_\_\_\_  
(Answer: reducing) family bonding time and the enjoyment of cooking.

Choices: situation, employing, reducing, convenience, contrasting, bringing, reliance, survey

Preparing for a career is very important for young people in today's \_\_\_\_\_ (Answer: competitive) society. Without a solid educational background, they may struggle to \_\_\_\_\_ (Answer: build) good careers or even find a job. Colleges and universities provide new skills to \_\_\_\_\_ (Answer: meet) career requirements, equipping students with the tools needed to \_\_\_\_\_ (Answer: succeed) in a dynamic job market.

Choices: postpone, competitive, devise, build, necessary, meet, succeed, remind

Empathy is important because it \_\_\_\_\_ (Answer: governs) the way in which people interact socially, and it impacts the way their personal relationships develop. Cognitive empathy is when a person is \_\_\_\_\_ (Answer: intellectually) able to understand what someone else might be feeling, and they are even able to use that knowledge to \_\_\_\_\_ (Answer: predict) how the person will act or feel, which could also help scientists develop better support for people who may \_\_\_\_\_ (Answer: struggle) to read facial expressions.

Choices: intellectually, intangibly, demonstrate, struggle, imposes, governs, predict

Choosing the right contractor for home renovation is crucial for a successful project. Begin by defining your renovation goals and budget to \_\_\_\_\_ (Answer: ensure) clarity on the scope of work. Research potential contractors, focusing on their experience, customer reviews, and portfolio of past projects. Importantly, \_\_\_\_\_ (Answer: draw) up a detailed contract to avoid misunderstandings. Remember, a reliable contractor is key not just for quality work but for peace of \_\_\_\_\_ (Answer: mind) throughout the renovation journey.

Choices: draw, ensure, frame, mind, exploit, cycle

A landmark ethnobotanical study recently uncovered the use of a previously unknown medicinal plant among \_\_\_\_\_ (Answer: indigenous) tribes in the Amazon. Researchers, collaborating with the tribes, are now \_\_\_\_\_ (Answer: delving) into the plant's potential, respecting the traditional knowledge while \_\_\_\_\_ (Answer: exploring) its application in modern medicine. The plant, which the tribes call "yakumama", has shown \_\_\_\_\_ (Answer: promising) anti-inflammatory and anti-microbial properties in preliminary tests.

Choices: delving, endangered, generating, promising, indigenous, raising, rife, exploring

Recent studies suggest that bilingual individuals may \_\_\_\_\_ (Answer: experience) trade-offs in language processing. While they benefit from the ability to \_\_\_\_\_ (Answer: switch) between languages, this comes with a potential \_\_\_\_\_ (Answer: downside): a slight delay in word retrieval compared to monolingual speakers. This trade-off, a result of managing two linguistic systems, highlights the complex \_\_\_\_\_ (Answer: nature) of language cognition.

Choices: contract, observe, experience, switch, nature, restore, downside, assumption

Just as the right time for revision is crucial, so is the method of studying. Students often find that their concentration and \_\_\_\_\_ (Answer: retention) of material vary throughout the day. Discovering the \_\_\_\_\_ (Answer: optimal) time and method, \_\_\_\_\_ (Answer: whether) through group study, flashcards, or quiet reading, can significantly enhance learning \_\_\_\_\_ (Answer: efficiency). Like revision, where timing matters, choosing the right study technique is essential for \_\_\_\_\_ (Answer: academic) success.

Choices: whether, neither, optimal, efficiency, coherent, prominent, obligation, reluctance, academic, retention

The concept of genius is traditionally \_\_\_\_\_ (Answer: associated) with extraordinary creativity and achievement, often manifested at a young age. While early bloomers like Mozart and Orson Welles are \_\_\_\_\_ (Answer: celebrated) examples, the narrative of genius is more nuanced, \_\_\_\_\_ (Answer: encompassing) a wide spectrum of creative expression. There are also late bloomers, who have discovered or developed their talents later in life, often after \_\_\_\_\_ (Answer: overcoming) various obstacles and challenges.

Choices: compensated, overcoming, celebrated, estimating, associated, drafted, attaining, encompassing,

Regular consumption of a balanced diet has been proven to significantly benefit an individual's health. A diet \_\_\_\_\_ (Answer: rich) in fruits, vegetables, whole grains, and lean proteins is crucial in mitigating the risk of \_\_\_\_\_ (Answer: chronic) diseases such as heart disease, diabetes, and certain cancers. Nutritionists recommend a variety of foods to ensure a range of essential nutrients for \_\_\_\_\_ (Answer: maintaining) good health.

Choices: packed, central, maintaining, living, chronic, rich

Linguists \_\_\_\_\_ (Answer: track) down the evolution of language, unraveling how dialects shift and morph over time. They often \_\_\_\_\_ (Answer: zero) in on regional variations, documenting how populations \_\_\_\_\_ (Answer: pick) up new expressions while phasing out old ones. This exploration into linguistic shifts sheds \_\_\_\_\_ (Answer: light) on cultural and social transformations within communities.

Choices: pick, zero, assign, light, seek, gather, track, mass

As individuals' \_\_\_\_\_ (Answer: earnings) increase, there is a noticeable trend towards saving more, not merely for unforeseen emergencies, but also for future aspirations and comforts. The \_\_\_\_\_ (Answer: propensity) to save is influenced by a \_\_\_\_\_ (Answer: myriad) of factors including economic conditions, cultural values, and personal financial goals. As people navigate through different life stages, their saving patterns reflect a balancing act between \_\_\_\_\_ (Answer: immediate) needs and long-term plans.

Choices: emergence, contracts, myriad, survey, earnings, propensity, immediate, strict

For many, music is an essential part of life, enriching experiences and \_\_\_\_\_ (Answer: connecting) people across boundaries. It has the power to evoke deep emotions and to influence mood, \_\_\_\_\_ (Answer: transcending) language and cultural barriers. The study of music's psychological impact reveals its \_\_\_\_\_ (Answer: capacity) to affect cognitive processes, memory, and social interaction. Whether as a form of entertainment, a tool for therapy, or a \_\_\_\_\_ (Answer: subject) for academic study, music remains an enduring element of human culture.

Choices: consent, capacity, regime, subject, transcending, resolving, connecting, suspecting

Mercury is not found in many common products that we buy because it can be very dangerous. The most common products that \_\_\_\_\_ (Answer: contain) mercury are batteries, powerful outdoor lights, disinfectants and thermometers, which are used to measure our body's temperature. It can also be found in barometers, which are used to measure air pressure and \_\_\_\_\_ (Answer: show) changes in weather, and thermostats, which \_\_\_\_\_ (Answer: regulate) the temperature of buildings. Mercury can also be found in printer and photocopy toners.

Choices: fix, cover, constrain, regulate, contain, show

Group dynamics plays a pivotal role in understanding how individuals interact in social settings. This area of sociology examines the patterns of interaction between \_\_\_\_\_ (Answer: members) within a group, including the roles they \_\_\_\_\_ (Answer: assume), the norms that govern their behavior, and the influence they \_\_\_\_\_ (Answer: exert) on one another. Understanding group dynamics is crucial for comprehending various social \_\_\_\_\_ (Answer: phenomena), from the formation of social identities to the spread of beliefs and attitudes.

Choices: challenges, pretend, members, phenomena, commit, charts, exert, assume

Octopus communication relies on a range of signals and gestures, \_\_\_\_\_ (Answer: conveying) complex messages within their communities. When \_\_\_\_\_ (Answer: approaching) a dominant octopus, a younger, less dominant one might display specific postures or colors as \_\_\_\_\_ (Answer: signs) of submissiveness. These can include arm gestures or color changes, often accompanied by jetting water or changing textures. The dominant octopus, in \_\_\_\_\_ (Answer: turn), may respond with \_\_\_\_\_ (Answer: reassuring) signals, such as gentle arm touches or adopting a relaxed posture.

Choices: citing, reassuring, conveying, approaching, turn, reality, launching, signs, routes, extracting



Climate change poses significant challenges to agriculture, affecting crop \_\_\_\_\_  
(Answer: yields) and farming practices worldwide. The agricultural sector must \_\_\_\_\_  
(Answer: adapt) to shifting weather patterns and increased extreme events, which requires an understanding of both climatology and plant science. Researchers in this field are at the \_\_\_\_\_  
(Answer: forefront) of developing resilient agricultural systems that can \_\_\_\_\_  
(Answer: withstand) the impacts of a changing climate.

Choices: withstand, offense, occupy, margins, forefront, deduct, adapt, yields,

The water droplets that form clouds are held aloft by atmospheric currents. They are \_\_\_\_\_  
(Answer: termed) as condensed moisture. The droplets that become too heavy to be \_\_\_\_\_  
(Answer: suspended) in the air precipitate as rain. This precipitation is a \_\_\_\_\_  
(Answer: vital) part of the water cycle. Rainwater provides necessary hydration to ecosystems and is the primary source of \_\_\_\_\_  
(Answer: fresh) water for various forms of life.

Choices: uniform, vital, fresh, exhausted, moral, termed, suspended, specialized

A symphony composed entirely by artificial intelligence has \_\_\_\_\_  
(Answer: premiered) to a mixed reception. The piece, a collaboration between AI developers and music theorists, challenges traditional \_\_\_\_\_  
(Answer: notions) of creativity. While some hail it as a \_\_\_\_\_  
(Answer: masterpiece) of modern technology, others question the emotional depth of music \_\_\_\_\_  
(Answer: created) by algorithms. The \_\_\_\_\_  
(Answer: debate) continues as AI begins to blur the lines in artistic domains.

Choices: credits, bond, candidate, premiered, created, masterpiece, confused, exposed, debate, notions

Elizabeth Holmes is the CEO of Theranos, a blood-testing startup \_\_\_\_\_  
(Answer: based) in Palo Alto. Elizabeth's entrepreneurial journey began when she \_\_\_\_\_  
(Answer: dropped) out of college in her sophomore year to start her own company, focusing on simplifying blood tests for consumers. Her vision is to revolutionize diagnostic health testing \_\_\_\_\_  
(Answer: through) innovative technology.

Choices: retired, through, based, rotated, during, dropped

In the dense foliage of the Amazon rainforest, linguists are racing against \_\_\_\_\_  
(Answer: time) to document and preserve indigenous languages on the \_\_\_\_\_  
(Answer: brink) of extinction. The Amazon Language Preservation Fund supports local communities in maintaining their linguistic heritage, recognizing that with the loss of a language, the world loses a unique \_\_\_\_\_  
(Answer: perspective) on life.

Choices: time, surface, era, brink, perspective, plot

Amara Jones' story is one of resilience and fortitude. Born into a family of sharecroppers in the Mississippi Delta, she faced the \_\_\_\_\_ (Answer: harsh) realities of poverty and social inequality from a young age. Despite these challenges, Amara became a beacon of \_\_\_\_\_ (Answer: hope) for her community. Her memoir, "Roots of Resistance," is a poignant \_\_\_\_\_ (Answer: account) of struggle and triumph, detailing how she overcame \_\_\_\_\_ (Answer: barriers) to become an influential voice for justice and equity.

Choices: harsh, symptom, transportation, ties, barriers, sensitive, hope, account

Zaha Hadid was a revolutionary architect whose designs \_\_\_\_\_ (Answer: stand) out for their futuristic curves and brave forms. Before her untimely death in 2016, she \_\_\_\_\_ (Answer: left) a permanent mark on the world of architecture, becoming the first woman to \_\_\_\_\_ (Answer: win) the Pritzker Architecture Prize. Her works, from the London Aquatics Centre to the Guangzhou Opera House, are \_\_\_\_\_ (Answer: celebrated) for their innovation and dynamic sense of movement, challenging conventional architectural norms.

Choices: win, inclined, left, celebrated, stand, torn, generate, edit

The Tokyo Olympics ended with a record number of medals for women. Women athletes \_\_\_\_\_ (Answer: won) 58% of the total medals for Team USA, and 41% of the total medals for Team GB. Women also \_\_\_\_\_ (Answer: made) history by competing in new events, such as skateboarding, surfing, and karate. The Tokyo Olympics also featured the most gender-balanced program ever, with almost \_\_\_\_\_ (Answer: equal) numbers of male and female participants.

Choices: won, narrow, occurred, pushed, equal, made

The ocean, a vast and mysterious expanse, conceals hidden wonders in its depths. Dive \_\_\_\_\_ (Answer: beneath) the surface, and you'll find coral reefs teeming with life, like \_\_\_\_\_ (Answer: bustling) underwater cities. In these intricate ecosystems, even the tiniest organisms play crucial roles in \_\_\_\_\_ (Answer: sustaining) life and balance.

Choices: remaining, including, bustling, beneath, upon, sustaining

The Open-Door policy, initially \_\_\_\_\_ (Answer: proposed) by the United States, extends equal commercial and industrial rights to all nations within a specific territory. It \_\_\_\_\_ (Answer: sought) to ensure that all nations had equal access to China's markets and resources, and that no single power could \_\_\_\_\_ (Answer: dominate) the country. It was a reflection of the United States' growing economic power and its desire to \_\_\_\_\_ (Answer: play) a more active role in world affairs.

Choices: dominate, proposed, play, excused, sought, postpone, offset, justify

Social media and online reviews influence decisions, and e-commerce has become the norm. Companies adapt by \_\_\_\_\_ (Answer: utilizing) data analytics to understand and predict consumer behaviour. The shift \_\_\_\_\_ (Answer: towards) convenience and personalization is reshaping the retail landscape, pushing brands to innovate and \_\_\_\_\_ (Answer: tailor) their approaches to meet \_\_\_\_\_ (Answer: evolving) customer expectations.

Choices: enforcing, evolving, produce, towards, utilizing, until, tailor, greeting

E-commerce giants like Amazon continue to grow and reshape traditional retail. While e-commerce offers convenience, competitive pricing, and a vast \_\_\_\_\_ (Answer: array) of products, it can also lead to the \_\_\_\_\_ (Answer: concentration) of market power in the hands of a few major players. This can stifle competition and limit consumer choice in the long \_\_\_\_\_ (Answer: run).

Choices: run, concentration, economy, hype, array, case

The COVID-19 pandemic accelerated the shift to remote work, transforming work culture. While it offers flexibility and the chance to \_\_\_\_\_ (Answer: cut) down on commuting-related emissions, concerns about burnout and maintaining work-life balance \_\_\_\_\_ (Answer: persist). Companies are now exploring hybrid models to combine the best of both \_\_\_\_\_ (Answer: worlds).

Choices: persist, worlds, draw, careers, exhibit, cut

Modern democracies, characterized by free elections and protection of civil \_\_\_\_\_ (Answer: rights), stand as the prevailing systems of governance in many countries, \_\_\_\_\_ (Answer: promoting) participation and accountability. In these democracies, the \_\_\_\_\_ (Answer: principles) of the rule of law and separation of powers ensure that government actions are subject to checks and balances, preventing any one branch from \_\_\_\_\_ (Answer: amassing) too much power.

Choices: emerging, probabilities, rights, amassing, promoting, adapting, principles, forms

Physicians have high \_\_\_\_\_ (Answer: rates) of mental distress — and they're only getting higher. One 2023 survey found six out of 10 doctors often had feelings of burnout, \_\_\_\_\_ (Answer: compared) to four out of 10 pre-pandemics. In a separate 2023 study, nearly a quarter of doctors said they were depressed and this affected their \_\_\_\_\_ (Answer: ability) to cope with the rising demand for health care services. In a 2022 survey, one in 10 doctors said they'd thought about or \_\_\_\_\_ (Answer: attempted) suicide.

Choices: compared, ability, depth, rates, attempted, linked, pile, progressed

Perseverance, like past rovers on Mars, has a weather station to \_\_\_\_\_ (Answer: alert) it of any unfavorable conditions for operation. The rover consistently sends weather \_\_\_\_\_ (Answer: information) back to ground for scientists to analyze! The cameras on Perseverance also have covers that are only removed when the camera is in \_\_\_\_\_ (Answer: use), limiting its exposure. The cameras, \_\_\_\_\_ (Answer: however), still get dusty!

Choices: use, expression, however, alert, information, grant, then, occupation

Humans don't use the same type of memory to recall the capitals of the world as they do to \_\_\_\_\_ (Answer: flash) back to a visit to a friend's house the \_\_\_\_\_ (Answer: prior) week. The \_\_\_\_\_ (Answer: latter), which allows people to revisit past personal experiences in their minds, is known as "episodic memory," and was once thought to be \_\_\_\_\_ (Answer: exclusive) to humans.

Choices: equivalent, ago, prior, flash, last, latter, exclusive, recur

The Polynesians explored and \_\_\_\_\_ (Answer: settled) islands of the South Pacific by traveling in 18-meter-long, double-hull canoes and living on the \_\_\_\_\_ (Answer: open) ocean for days or weeks as they moved between islands. They used observations of the stars to help them navigate across the ocean and developed a \_\_\_\_\_ (Answer: keen) sense of the ocean currents and how winds and islands \_\_\_\_\_ (Answer: influenced) them.

Choices: present, built, open, convenient, influenced, confirmed, keen, settled

Paleontology, the study of ancient life, reveals Earth's prehistoric wonders. Fossils, the preserved remnants of organisms from \_\_\_\_\_ (Answer: bygone) eras, provide \_\_\_\_\_ (Answer: invaluable) insights into evolution and extinct species. Unearthing fossils like Tyrannosaurus rex bones sparks a \_\_\_\_\_ (Answer: sense) of wonder about the planet's deep history. Furthermore, \_\_\_\_\_ (Answer: advancements) in technology, such as high-resolution imaging and DNA analysis of ancient specimens, continue to unravel mysteries of the past, rewriting the narrative of our \_\_\_\_\_ (Answer: evolutionary) history.

Choices: premise, fictional, sense, bygone, intermediate, invaluable, evolutionary, advancements

In an era where our dependence on fossil fuels threatens the very planet, we \_\_\_\_\_ (Answer: inhabit), green energy initiatives have sprung up worldwide. Governments across the globe have \_\_\_\_\_ (Answer: established) stringent criteria and certification processes for producers of green energy. These standards, recognized by international environmental organizations, \_\_\_\_\_ (Answer: ensure) that renewable energy sources are \_\_\_\_\_ (Answer: harnessed) in an eco-friendly manner.

Choices: established, cooperated, inhabit, ensure, access, compose, aided, harnessed

How can artificial intelligence (AI) help us solve some of the most complex and \_\_\_\_\_ (Answer: pressing) problems in the world? Can AI systems learn from data and \_\_\_\_\_ (Answer: interact) with humans in natural ways? What are the ethical and social implications of developing and \_\_\_\_\_ (Answer: deploying) AI systems in various domains? These are some of the questions that motivate and challenge AI researchers and practitioners who aim to create and apply AI systems that can \_\_\_\_\_ (Answer: enhance) human capabilities.

Choices: merge, failing, pressing, treat, enhance, deploying, resembling, interact

Samsung's operating profit plummeted 95% in the first quarter, \_\_\_\_\_ (Answer: following) a record loss in its semiconductor business. It saw similar results in the second quarter. After a historic supply shortage during Covid, the global semiconductor industry is now \_\_\_\_\_ (Answer: seeing) a glut in some areas that has \_\_\_\_\_ (Answer: driven) losses for Samsung, the world's largest memory chip and smartphone maker.

Choices: driven, concentrating, expected, following, developing, seeing

Some people believe that Nostradamus's prophecies have predicted actual events. Others \_\_\_\_\_ (Answer: maintain) that because his prophecies tend to be about general types of events that occur frequently \_\_\_\_\_ (Answer: throughout) history — and are written in a cryptic and vague manner — it's possible to find one that seems to \_\_\_\_\_ (Answer: match) almost any event that has occurred.

Choices: maintain, inside, match, afford, throughout, satisfy

The tricky thing about soil is that no two \_\_\_\_\_ (Answer: patches) of it in the world are alike. One area might have a higher clay or sand content. Another might have more carbon from plants. One spot might be darker than another, and \_\_\_\_\_ (Answer: absorb) more of the sun's energy. In some places, like an Amazonian rainforest, trees might \_\_\_\_\_ (Answer: block) almost all sunlight from hitting the earth.

Choices: clutches, block, transfer, boost, absorb, patches

As we \_\_\_\_\_ (Answer: unfold) more and more of its mysteries, the lure of Mars as a second home doesn't \_\_\_\_\_ (Answer: escape) our imaginations. From the imagery \_\_\_\_\_ (Answer: captured) from previous Mars rovers such as Curiosity, scientists have found tracks of what could only be \_\_\_\_\_ (Answer: deemed) to be flowing water.

Choices: tied, captured, confirm, escape, deemed, urged, unfold, regard

If your mind is \_\_\_\_\_ (Answer: racing) with catastrophic thoughts about what's going to happen, your body responds in kind: the sympathetic nervous system \_\_\_\_\_ (Answer: kicks) in, bracing you for a threat — your breathing becomes fast and shallow, and



adrenaline races to your muscles, which can cause you to tremble and feel \_\_\_\_\_  
(Answer: faint).

Choices: guilty, breaks, racing, kicks, reflecting, faint

The lower stress levels that people experience in nature can \_\_\_\_\_ (Answer: improve) physical health, in \_\_\_\_\_ (Answer: part) by lowering blood pressure. Outside, people also may be more likely to \_\_\_\_\_ (Answer: socialize) with neighbors. Those \_\_\_\_\_ (Answer: connections) can help people feel less lonely and generally happier. They also may lead to more exercise when someone \_\_\_\_\_ (Answer: starts) up a game of tag or frisbee -- or maybe suggests a bike ride.

Choices: part, takes, starts, socialize, terms, connections, contributions, galvanize, improve

Numerous studies over the last 15 years have shown dogs and cats can \_\_\_\_\_ (Answer: lead) healthy lives on nutritionally sound plant-based diets provided they are made to \_\_\_\_\_ (Answer: contain) essential nutrients normally found in meat. Researchers have now begun to \_\_\_\_\_ (Answer: quantify) the environmental impact of pet diets and how that could change if they went vegan.

Choices: synchronize, lead, quantify, contain, enrich, order

Scientists use research articles to \_\_\_\_\_ (Answer: communicate) their research findings and scientific claims. These articles are not just factual \_\_\_\_\_ (Answer: reports) of experimental work; the authors also try to convince the reader that their \_\_\_\_\_ (Answer: argument) is correct. It is now easier than \_\_\_\_\_ (Answer: ever) to read the original research behind science stories in the media, as more and more articles are being made freely available through open-access \_\_\_\_\_ (Answer: publishing).

Choices: admit, often, hypotheses, communicate, reports, argument, publishing, ever, phenomenon

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 \_\_\_\_\_ (Answer: campus). David's career in education \_\_\_\_\_ (Answer: began) as a primary school teacher in Queensland in the early 1980's, \_\_\_\_\_ (Answer: progressing) to four principal positions before \_\_\_\_\_ (Answer: entering) higher education. David's research interests predominate in teacher education with particular interest in building teacher capability to meet a changed world.

Choices: acted, beginning, campus, department, entering, began, progressing.

With about one and a half billion non-native speakers, English has become the world's own language. Such \_\_\_\_\_ (Answer: dominance) has its downside, of course. There are now about 6,800 languages left in the world, compared with perhaps \_\_\_\_\_ (Answer: perhaps).

twice) that number back at the dawn of agriculture. Thanks in \_\_\_\_\_ (Answer: part) to the rise of über-languages, most importantly English, the remaining languages are now dying at the \_\_\_\_\_ (Answer: rate) of about one a fortnight.

Choices: more, reign, relation, twice, part, rate, dominance.

The electrons that orbit closest to the nucleus are strongly \_\_\_\_\_ (Answer: attracted). They are called bound electrons. The electrons that are farther away from the pull of nucleus can be \_\_\_\_\_ (Answer: forced) out of their \_\_\_\_\_ (Answer: orbits). These are called free electrons. Free electrons can move from one atom to another. This \_\_\_\_\_ (Answer: phenomenon) is known as electron flow. Electricity is the movement or flow of electrons from one atom to another.

Choices: orbits, sustained, forced, attracted, disclosed, angles, put, phenomenon, point.

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 \_\_\_\_\_ (Answer: offer) around the world, the choice of where to study can be overwhelming. Here we explain how to \_\_\_\_\_ (Answer: choose) the right school and course for you and unravel the application and funding process. "Probably the \_\_\_\_\_ (Answer: majority) of people applying to business school are at a point in their careers where they know they \_\_\_\_\_ (Answer: want) 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 \_\_\_\_\_ (Answer: criteria): 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."

Choices: standards, except, hold, offer, choose, deprive, minority, want, majority, criteria.

Sharks come in a wide \_\_\_\_\_ (Answer: range) of shapes and sizes. Today, more than 500 species of shark swim throughout the world's salt and fresh waters, each with its own unique \_\_\_\_\_ (Answer: characteristics) and adaptations, but many species are \_\_\_\_\_ (Answer: classified) as endangered by the International Union for the Conservation of Nature. Their numbers and habitat have \_\_\_\_\_ (Answer: decreased) dramatically over the last decades, primarily due to human activity like offshore drilling and fishing.

Choices: acceptance, characteristics decreased, range, classified, values, designed.

Young people are increasingly aware of the challenges and risks \_\_\_\_\_ (Answer: presented) by the climate crisis and of the opportunity to \_\_\_\_\_ (Answer: achieve) sustainable development. Young people are not only victims of climate change, but they are also \_\_\_\_\_ (Answer: valuable) contributors to climate action. Whether through education, science or technology, young people are \_\_\_\_\_ (Answer: scaling) up their efforts and using their skills to accelerate climate action.

Choices: valuable, catching, scaling, receive, presented, achieve, exotic, shortened

Lava is an incredibly hot \_\_\_\_\_ (Answer: substance) that forms when magma from the Earth 's depths rise to the surface and \_\_\_\_\_ (Answer: erupts) through a volcano. It is so hot that it can melt and \_\_\_\_\_ (Answer: fuse) solid rock, creating the awe-inspiring volcanic landscapes we see on Earth.

Choices: model, navigates, erupts, fuse, substance, render.

A country refers to a certain population with its own \_\_\_\_\_ (Answer: identity), traditions, and common cultural background. Most crucially of all, a nation needs to be \_\_\_\_\_ (Answer: recognized) by other members of the United Nations in order to be considered a country. Otherwise, anyone with an island could \_\_\_\_\_ (Answer: proclaim) themselves the sovereign leader of their own fabricated country.

Choices: required, identity, display, proclaim, recognized, provide.

Polar bears are a powerful symbol of the strength and \_\_\_\_\_ (Answer: endurance) of the Arctic. Their Latin name, *Ursus maritimus*, means "sea bear." It's an \_\_\_\_\_ (Answer: apt) name for this majestic species, which spends much of its life in, around, or on the ocean. They have a thick layer of body fat and a water-repellent coat that \_\_\_\_\_ (Answer: insulates) them from the cold air and water.

Choices: technology, entrusts, endurance, apt, insulates, unique

# SUMMARIZE SPOKEN TEXT

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## Self-domestication

The concept of self-domestication in animals, particularly dogs, is quite intriguing. One prominent theory suggests that dogs began their domestication journey by scavenging around human settlements, especially garbage dumps. This theory posits that less aggressive wolves were more successful at scavenging near humans, leading to a natural selection process favoring those with friendlier and more cooperative traits. However, some researchers argue against this "dump theory". They suggest that the domestication of dogs was more complex and involved active cooperation and emotional bonds between humans and wolves long before the existence of human waste dumps. This perspective highlights the psychological and neurobiological similarities between humans and dogs that facilitated their close relationship. Overall, the self-domestication hypothesis emphasizes that the evolution of dogs from wolves was likely driven by a combination of factors, including reduced aggression and increased sociability.

## Sustainable Tourism

Sustainable tourism is a vital concept in the modern travel industry. As we explore new places and cultures, it's crucial to consider the impact our travel has on the environment, local communities, and economies. Sustainable tourism is about more than just reducing carbon footprints. It's about preserving the natural and cultural heritage of the destinations we visit. For instance, eco-tourism initiatives, which focus on conservation and supporting local communities, are becoming increasingly popular. These initiatives not only protect natural habitats but also provide economic benefits to local residents. However, the challenge of sustainable tourism goes beyond individual actions. It requires collaboration between governments, tourism operators, and travelers. For example, creating policies that limit the environmental impact of tourism, promoting local businesses, and educating tourists on responsible travel practices are essential steps. In a world facing environmental challenges and cultural homogenization, sustainable tourism offers a path to enjoy the world's beauty while protecting it for future generations. By choosing to travel sustainably, we're not just tourists; we're guardians of the world's diverse and precious cultures and ecosystems.

## Cultural Exchange

As our world becomes increasingly interconnected, understanding and appreciating diverse cultures is more important than ever. Cultural exchange bridges gaps between societies, fostering mutual respect and understanding. In a globalized world, cultures are no longer isolated. We see a fusion of traditions, languages, and arts, creating a rich tapestry of global culture. For instance, international film festivals showcase movies from different countries, offering a glimpse into various cultural narratives and experiences. However, this exchange isn't without challenges. It's crucial to approach cultural interactions with sensitivity and respect, avoiding cultural appropriation and ensuring that cultural representations are authentic and respectful. Moreover, cultural exchange is

a two-way street. It's not just about experiencing other cultures, but also about sharing our own. This reciprocal process enriches all parties involved, leading to a deeper global understanding and cooperation. Embracing cultural diversity in a globalized world is not just beneficial; it's essential. It allows us to see the world from multiple perspectives, promoting a more inclusive and harmonious global community.

## Coral Reefs

Today, we turn our attention to one of the ocean's most magnificent and vital ecosystems: coral reefs. These underwater rainforests are not just spectacular in their beauty, but they are crucial for the health of our planet. Coral reefs, though covering less than 1% of the ocean floor, support an estimated 25% of all marine species. They provide critical habitats for a diverse range of sea life, from fish to invertebrates. For instance, the Great Barrier Reef, a World Heritage site, is home to thousands of species, some of which are found nowhere else on Earth. However, these ecosystems are under threat. Climate change, pollution, and overfishing have led to widespread coral bleaching and reef degradation. This loss has profound implications, not just for marine life but also for human communities that rely on reefs for food, tourism, and coastal protection. Preserving coral reefs is more than an environmental concern; it's a crucial step in maintaining the ocean's biodiversity and our own livelihoods. It requires global efforts, from reducing carbon emissions to implementing sustainable fishing practices. By protecting these vibrant ecosystems, we're not only safeguarding marine life but also ensuring a sustainable future for generations to come.

## Heat Island

I am glad to stand here today, to talk about a critical geographical phenomenon impacting urban areas globally: the Urban Heat Island effect. This effect refers to the observable fact that urban regions often experience higher temperatures than their rural surroundings, a consequence of modern urban development. The primary cause is the extensive use of concrete, asphalt, and other materials in urban construction that absorb and retain heat. Additionally, the dearth of vegetation in cities as compared to rural areas further exacerbates this effect. For instance, on hot summer days, cities like New York or Tokyo can be several degrees warmer than their surrounding countryside. The implications of the Urban Heat Island effect are significant. It leads to increased energy consumption as people rely more on air conditioning, contributes to the worsening of air quality, and exacerbates the effects of heatwaves, posing a health risk to urban populations. To mitigate this, cities must adopt greener practices, such as planting more trees, creating urban green spaces, and using lighter-colored, heat-reflective materials in construction. Addressing the Urban Heat Island effect is not just about improving comfort; it's about creating sustainable, livable urban environments for future generations."

## Stronger Communities

Thanks for joining me today. I would like to focus on the profound impact of empathy on strengthening communities and fostering a more compassionate society. Empathy, the ability to understand and share the feelings of others, is a fundamental human trait. It forms the basis of our social bonds and enable us to connect with others on a deeper level, transcending differences in background, culture, or beliefs. Moreover, empathy is a catalyst for positive social

change. It motivates individuals and communities to address social injustices, offer support to those in need, and work towards creating a fairer and more inclusive society. Furthermore, empathy



enhances conflict resolution and cooperation within communities. When people genuinely empathize with each other's perspectives, they are more likely to find common ground and collaborate effectively, leading to stronger, more resilient communities. In conclusion, empathy is a powerful force for building stronger, more compassionate communities and promoting social cohesion. It is a skill that we should cultivate and encourage in ourselves and our communities, as it holds the key to a more harmonious and connected society.

### Power of Compassion

Ladies and gentlemen, welcome. Many people are now interested in the transformative influence of compassion and its role in fostering unity and empathy in an increasingly divided world. Compassion, at its core, is the ability to understand and empathize with the suffering of others. It promotes kindness, tolerance, and a sense of shared humanity, transcending barriers of nationality, religion, and culture. Moreover, compassion drives positive social change. It motivates individuals and communities to take action to alleviate suffering and address social injustices. Compassionate acts, whether through volunteer work, charitable donations, or advocacy, have the potential to create a more equitable and just society. Furthermore, compassion enhances personal well-being. Studies have shown that practicing compassion can reduce stress, improve mental health, and foster a sense of purpose and fulfillment. It strengthens social bonds and contributes to a sense of belonging and interconnectedness. In conclusion, compassion is a powerful force for bridging divides, driving positive change, and promoting personal well-being. It is a quality that we should nurture and encourage in ourselves and our communities, as it holds the key to a more harmonious and empathetic world.

### Impact of Technology

Alright class, tonight we explore the profound influence of technology on our society and the challenges it presents. Technology has revolutionized communication. It has made information more accessible, connecting people across the globe. However, the constant digital connectivity also raises concerns about privacy and the quality of human relationships. Moreover, technology has transformed industries and economies. Automation and artificial intelligence are changing the job landscape, necessitating reskilling and adaptation. While these changes offer efficiency and innovation, they also raise questions about income inequality and job displacement. Furthermore, technology plays a crucial role in addressing global challenges. It aids in scientific research, healthcare advancements, and environmental monitoring. Nevertheless, it also contributes to issues like cybersecurity threats and digital addiction. In conclusion, technology is a double-edged sword, offering immense opportunities and posing significant challenges. Our ability to harness technology's benefits while mitigating its negative consequences will determine the future of our society.

### Environmental Conservation

Now let us delve into the critical importance of environmental conservation and the urgent need to protect our planet. Our environment is the foundation of life on Earth. It provides us with clean air, fresh water, and fertile soil, all essential for our survival. When we neglect environmental conservation, we jeopardize these vital resources. Furthermore, a healthy environment is key to biodiversity. Ecosystems thrive when they are in balance, and the diversity of species sustains the overall health of the planet. Conservation efforts help protect endangered species and maintain

ecological equilibrium. Moreover, environmental conservation is closely linked to our quality of life. Pollution, deforestation, and climate change have far-reaching consequences, including adverse effects on public health and economic stability. Investing in conservation is an investment in our well-being and future prosperity. In conclusion, environmental conservation is not just an ethical responsibility; it is a fundamental necessity. By safeguarding our environment, we ensure a sustainable future for ourselves and future generations, preserving the beauty and richness of our planet.

## Digital Revolution

Ladies and gentlemen, today we discuss the ongoing digital revolution and the complexities it brings to our society. The digital revolution has brought unprecedented connectivity. With the rise of the internet and social media, people worldwide can easily communicate and share information, facilitating global collaboration. However, this connectivity also poses significant challenges. Misinformation and fake news spread rapidly in the digital age, threatening our understanding of reality and undermining trust in institutions. Furthermore, privacy concerns have escalated. As technology advances, personal data becomes increasingly vulnerable to exploitation, necessitating stricter regulations to safeguard individuals' rights. In conclusion, the digital revolution offers immense opportunities for progress but also presents considerable challenges. It is our responsibility to harness its potential while addressing issues like misinformation and data privacy, ensuring a more informed and secure digital future for all.

## Habitat Conservation

Our planet's natural habitats are not just picturesque landscapes; they are the very foundations of life on Earth. Preserving these ecosystems is not only a moral duty but also vital for our survival. One compelling argument for habitat conservation is its role in biodiversity. Natural habitats are home to a wide array of species, many of which are interconnected in intricate ecological webs. When these habitats are destroyed, entire ecosystems can collapse, leading to the extinction of species and loss of valuable genetic diversity. Furthermore, natural habitats provide numerous ecosystem services, such as clean air and water, pollination, and climate regulation. Protecting these habitats safeguards these critical services, which are essential for human well-being and the health of the planet. As we navigate the challenges of the 21st century, it is imperative that we prioritize habitat conservation. By preserving these natural treasures, we not only protect biodiversity but also ensure a sustainable future for ourselves and generations to come.

## Force of Empathy

Empathy, the ability to understand and share the feelings of others, is a profoundly impactful force in our lives. It transcends boundaries and has the power to heal wounds and bring about positive change. One compelling argument for the importance of empathy is its role in fostering connections and resolving conflicts. When we genuinely empathize with others, we bridge divides and build bridges of understanding, paving the way for peaceful coexistence. Furthermore, empathy is a catalyst for social change. It motivates us to take action, address injustices, and work

towards a more equitable world. By putting ourselves in others' shoes, we can advocate for justice and make a difference in the lives of those who are marginalized or suffering. In a world that often feels divided, empathy offers a path towards unity and progress. By practicing empathy in our daily lives, we can create a more compassionate and harmonious society where understanding and kindness prevail.

## Climate Crisis

The planet's biodiversity is under dire threat due to the escalating climate crisis. This critical issue demands our immediate attention and action to safeguard the delicate balance of life on Earth. One pressing argument for addressing climate change's impact on biodiversity is the loss of habitats. Rising temperatures, deforestation, and extreme weather events disrupt ecosystems, driving countless species towards extinction. Furthermore, the interconnectedness of biodiversity and climate regulation cannot be overstated. Diverse ecosystems play a crucial role in absorbing carbon dioxide and stabilizing our climate. As species disappear, this vital ecosystem service weakens, exacerbating climate change. To protect our planet's biodiversity, we must urgently reduce greenhouse gas emissions, conserve natural habitats, and promote sustainable practices. Our planet's future and the well-being of all living creatures depend on our collective efforts to combat the climate crisis.

## Aging

Aging is a natural part of life, but the science behind it is anything but simple. Recent advances in biology have begun to unravel the mysteries of aging, offering insights into how we might live longer, healthier lives. Research has shown that aging is not just a result of time passing; it's influenced by a complex interplay of genetics, lifestyle, and environment. Understanding these factors can lead to interventions that slow the aging process and improve the quality of life in later years. However, the pursuit of longevity raises ethical and social questions. What are the implications of a significantly longer lifespan? How will it affect population dynamics, resource allocation, and the very structure of society? As we venture further into this uncharted territory, these questions need to be at the forefront of the conversation.

## Role of Art

Art is not merely a reflection of society; it's a tool for change. Throughout history, it has challenged the status quo, provoked thought, and inspired movements. In times of turmoil, artists have often led with powerful statements. Yet, the role of art in social change is complex. While it can highlight critical issues, its message risks being diluted by commodification and commercial interests. Moreover, limited accessibility—often confined to galleries and theaters—can restrict its reach. To truly harness art's transformative power, it must become more accessible, sparking broad engagement and dialogue.

## Storytelling

Storytelling is an intrinsic part of human culture, a timeless tradition that transcends borders and generations. It's more than entertainment; it's a means of education, cultural preservation, and

instilling moral values. Stories shape our perceptions of the world, influencing our beliefs and attitudes. In the modern world, the art of storytelling has evolved, with digital media offering new platforms and methods. However, this evolution brings challenges. The digital age has led to an information overload, making it harder for meaningful stories to stand out. Moreover, there's a growing disconnect between traditional storytelling and modern narratives, risking the loss of cultural heritage. To preserve the power of storytelling, it's essential to adapt traditional methods to contemporary mediums, ensuring that stories continue to be a central part of our cultural tapestry.

### Role of Technology

In today's world, technology's impact on education is undeniable. Integrating digital tools into the learning process has revolutionized how we acquire knowledge and skills. For instance, online learning platforms have made education accessible to a wider audience, breaking geographical barriers. People from remote areas can now access courses from top universities, bridging the gap between different regions and communities. Additionally, technology has enabled personalized learning experiences. Educational software and applications can adapt to individual learning styles and paces, catering to the unique needs of each student. This approach fosters a more inclusive and effective learning environment, accommodating diverse learning abilities and preferences. In conclusion, technology's integration into education is not just a trend but a significant evolution in the teaching and learning process, offering accessibility and personalization like never before.

### Celebrating Cultural Diversity

Our world is a tapestry of cultures, each thread contributing to the vibrant and rich mosaic of human civilization. Embracing and preserving cultural diversity is not only a moral imperative but also a source of strength and innovation. One compelling argument for the value of cultural diversity is its role in fostering creativity and problem-solving. When people from diverse backgrounds come together, they bring with them unique perspectives and experiences that can lead to innovative solutions to complex challenges. Moreover, cultural diversity promotes tolerance and empathy. Exposure to different cultures and viewpoints helps break down stereotypes and prejudices, promoting a more inclusive and harmonious society. In today's interconnected world, it is crucial that we recognize and celebrate the beauty of cultural diversity. By doing so, we not only enrich our own lives but also contribute to a more tolerant, equitable, and peaceful global community.

### Call to Action

Ladies and gentlemen, we stand at a critical juncture in the history of our planet. The issue at hand is climate change, and it demands our immediate attention. Our world is undergoing unprecedented changes, and the consequences are far-reaching. First and foremost, we must acknowledge the alarming rise in global temperatures. The evidence is undeniable: our polar ice caps are melting, sea levels are rising, and extreme weather events are becoming more frequent. These changes pose a grave threat to our coastal communities and biodiversity. Furthermore, the impact of climate change extends beyond the environment. It affects economies, health, and social stability. Droughts and food shortages can lead to conflicts, displacement, and suffering on a massive scale. In the face of this

crisis, it is our moral obligation to act. We must transition to clean energy sources, reduce carbon emissions, and support sustainable practices. The future of our planet depends on the choices we make today.





## FILL IN THE BLANKS LISTENING

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Local farmers \_\_\_\_\_ (Answer: frequently) experiment with new methods to grow their crops more efficiently. They want to improve their harvests each season. Different \_\_\_\_\_ (Answer: styles) of farming, such as organic or vertical farming, are becoming popular. Many \_\_\_\_\_ (Answer: farms) now offer subscription services to deliver their produce directly to customers. They pack \_\_\_\_\_ (Answer: fresh) vegetables into a \_\_\_\_\_ (Answer: box) for families to enjoy weekly. This ensures people have access to healthy food.

For many developed countries, the 1980s was a time when the switch from traditional heavy industries and manufacturing to services and information-based \_\_\_\_\_ (Answer: enterprise) was completed. This led to widespread changes in employment \_\_\_\_\_ (Answer: patterns) in these countries, as well as having profound social effects. In fact, it isn't going too far to say that there was a basic transformation in the whole culture which can still be \_\_\_\_\_ (Answer: observed) today.

The free phone is the Samsung U740 handheld mobile device, which has MP3, video, text-message and instant-message functions. "Students will earn text messages, talk time, and other rewards, such as free ring tones, music downloads, or \_\_\_\_\_ (Answer: event) tickets, through their performance in school," the Education Department said in a news \_\_\_\_\_ (Answer: release). Students will be evaluated on the basis of attendance and behavior, along with three other indicators — such as homework completion, class \_\_\_\_\_ (Answer: participation), or course grades — chosen by educators and customized to address academic \_\_\_\_\_ (Answer: priorities) in their specific schools. Administrators will have access to significant new data on student performance, allowing them to \_\_\_\_\_ (Answer: track) the short-term indicators that contribute to larger goals of boosting student achievement and graduation rates.

Doctors have been concerned for a long time about people googling their symptoms. There's this term "Dr. Google," which is really frustrating to a lot of \_\_\_\_\_ (Answer: physicians), because people come in and think that they know what they have without having the actual \_\_\_\_\_ (Answer: expertise) or context, just by having looked up, "I have a headache. What does it mean?" GPT software is much better at actually being accurate in \_\_\_\_\_ (Answer: determining) what patients have and asking sometimes follow-up questions that will help it further hone in on the correct diagnosis. Companies are starting to study this. And \_\_\_\_\_ (Answer: preliminary) research suggests the AIs are surprisingly accurate. Studies have shown that they work better than online symptom checkers—which are websites that let you input your symptoms and spit out a diagnosis. They're also better than some \_\_\_\_\_ (Answer: untrained) humans.

I think that's not going to be such a \_\_\_\_\_ (Answer: viable) option for Cerberus, but that may be the way that they're gonna approach it. Private \_\_\_\_\_ (Answer: equity) of course is supposed to have the advantage of taking management out of the spotlight of quarterly profits and industry \_\_\_\_\_ (Answer: analysts), and prying shareholder eyes, and that, \_\_\_\_\_ (Answer: hypothetically), gives them a chance to take slower, more \_\_\_\_\_ (Answer: patient) routes to doing something to turn a company around. I would hope, and I have some, I

guess, \_\_\_\_\_ (Answer: optimism) that some of the Cerberus team will have some creativity and imagination.

The impact of climate change on our planet is becoming increasingly \_\_\_\_\_ (Answer: evident). Rising temperatures, more frequent extreme weather events, and melting glaciers are just a few of the signs that our climate is \_\_\_\_\_ (Answer: changing). To combat this crisis, it is essential for individuals, communities, and governments to take \_\_\_\_\_ (Answer: proactive) actions. One of the most effective ways to reduce greenhouse gas emissions is to transition to renewable sources of energy, such as solar and wind power. Additionally, \_\_\_\_\_ (Answer: conservation) efforts, like reforestation and protecting endangered species, can help maintain the balance of our ecosystems. In the face of this global challenge, cooperation and \_\_\_\_\_ (Answer: collective) action are crucial to safeguarding our planet for future generations.

Art is a reflection of human \_\_\_\_\_ (Answer: expression). It takes various forms, from visual arts like painting and sculpture to performing arts like dance and theater. Throughout history, art has been used to \_\_\_\_\_ (Answer: communicate) ideas, emotions, and cultural values. It serves as a means of \_\_\_\_\_ (Answer: creative) communication, allowing artists to convey their perspectives and interpretations of the world. In recent years, technology has opened up new possibilities for art, with digital media, virtual reality, and interactive installations expanding the boundaries of artistic \_\_\_\_\_ (Answer: exploration). Art has the power to inspire, challenge, and provoke thought, making it an essential part of our lives. It is a testament to human creativity and the \_\_\_\_\_ (Answer: desire) to express the ineffable.

The Industrial Revolution, which began in the late 18th century, marked a significant \_\_\_\_\_ (Answer: breakthrough) in human history. It brought about a rapid \_\_\_\_\_ (Answer: revolution) in technological advancements, leading to the mechanization of various industries. This period witnessed the \_\_\_\_\_ (Answer: emergence) of steam engines, textile mills, and the growth of urban centers. As a result, there was a substantial \_\_\_\_\_ (Answer: expansion) in the demand for labor, particularly in factories. Workers faced harsh working conditions, long hours, and low wages, which eventually \_\_\_\_\_ (Answer: contributed) to labor movements and the fight for workers' rights.

Some years ago, Bjorn Lomborg, a young Danish statistician, published a book called *The Skeptical Environmentalist*. It became a \_\_\_\_\_ (Answer: bestseller) and generated a lot of heat. Lomborg was attacked, abused and \_\_\_\_\_ (Answer: accused) of all manner of things; not because he denied the fact of global warming — in fact he \_\_\_\_\_ (Answer: affirmed) it — but because, on his analysis, the devil and, he says, a lot of \_\_\_\_\_ (Answer: deviousness) was contained in the details presented concerning the size of the problem and what were the most \_\_\_\_\_ (Answer: responsible) steps to take in response to global warming.

Two decades ago, Kashmiri houseboat-owners rubbed their hands every spring at the prospect of the annual influx of \_\_\_\_\_ (Answer: tourists). From May to October, the hyacinth-choked waters of Dal Lake saw flotillas of vividly painted Shikaras carrying Indian families, boho westerners, young travelers and wide-eyed Japanese. Carpet-sellers \_\_\_\_\_ (Answer: honed) their skills, as did purveyors of anything remotely embroidered while the house boats \_\_\_\_\_ (Answer: initiated) by the British Raj provided unusual accommodation. Any foreigners venturing there risked

their \_\_\_\_\_ (Answer: lives), proved in 1995 when five young Europeans were kidnapped and murdered.

Green chemistry is a concept designed to develop \_\_\_\_\_ (Answer: technologies) which allow chemistry to be practiced with minimal damage to the environment or in an environmentally \_\_\_\_\_ (Answer: compatible) way. And it's meant to cover both chemical processes and chemical \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: 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.

This multi-million-selling Internet book is still the ultimate handbook for \_\_\_\_\_ (Answer: novices) and experts alike. It's written in plain English, it covers \_\_\_\_\_ (Answer: everything) from getting online for the first time to newsfeeds. This fully \_\_\_\_\_ (Answer: revised) guide covers all the latest sites and \_\_\_\_\_ (Answer: crazes). Whether you've never sent an email or you just want to keep up with the latest \_\_\_\_\_ (Answer: developments), this is the book for you.

In America, there is certainly the potential for ethnic conflict. Categorically, our colossal metroplexes will not be \_\_\_\_\_ (Answer: sustainable) in a post-oil future — and despite the wishes and yearnings of many people, the truth is that no combination of alternative \_\_\_\_\_ (Answer: fuels) will permit us to continue living at this scale. Some of our cities will not make it. Phoenix, Tucson, and other Sunbelt cities will dry up and blow \_\_\_\_\_ (Answer: away). In Las Vegas, the excitement will be over. Other mega-cities will have to downscale or face extreme dysfunction. One thing that almost nobody is paying attention to: the skyscraper will not be a viable building type in our \_\_\_\_\_ (Answer: energy-scarce) future. Six or seven stories must be the practical limit in a new age when electric \_\_\_\_\_ (Answer: supply) is not necessarily as reliable as it has been in our time. Cities \_\_\_\_\_ (Answer: overburdened) with mega-structures will have a severe liability.

Space exploration has always been a source of \_\_\_\_\_ (Answer: endless) fascination and scientific discovery. From the first human landing on the Moon in 1969 to the recent exploration of Mars, humans have been driven by their innate \_\_\_\_\_ (Answer: curiosity) to understand the universe beyond our planet. The development of advanced \_\_\_\_\_ (Answer: propulsion) technologies has allowed us to send robotic spacecraft to explore distant \_\_\_\_\_ (Answer: worlds) in our solar system. These missions have provided valuable insights into the geology, climate, and potential habitability of other celestial bodies. Looking forward, the next frontier in space exploration is the search for exoplanets beyond our solar system, which could potentially \_\_\_\_\_ (Answer: harbor) extraterrestrial life.

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 \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: concerned) that I'm going to pigeonhole myself too early in the course.

Lisa: Yeah, hmmm.

Brad: As you know there are going to be \_\_\_\_\_ (Answer: 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.

Giant exoplanets, like the so-called 'hot Jupiters' that are similar in \_\_\_\_\_ (Answer: characteristics) to the solar system's biggest \_\_\_\_\_ (Answer: planet) and orbit very close to their host stars, are excellent targets for \_\_\_\_\_ (Answer: astronomers) in their search for their extrasolar worlds. The size and proximity of these planets is easy to \_\_\_\_\_ (Answer: detect) as they create a large decrease in brightness when passing in front of their parent stars.

So between 4,000 and 3,000 BC the Mesopotamian Samarian cultures do not \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: conspicuous) consumption, and this is the context for the royal burials at Ur. OK, so, the royal \_\_\_\_\_ (Answer: cemetery) consists of quite a number of pits, so these are the \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: chambers).

So, what is quantum mechanics? Even though it was discovered by \_\_\_\_\_ (Answer: physicists), it's not a physical theory in the same sense as electro \_\_\_\_\_ (Answer: magnetism) or general relativity. In the usual " \_\_\_\_\_ (Answer: hierarchy) of sciences" — with biology at the top, then chemistry, then physics, then maths — quantum mechanics sits at a \_\_\_\_\_ (Answer: level) between maths and physics that I don't know a good name for. Basically, quantum mechanics is the \_\_\_\_\_ (Answer: operating) system that other physical theories run on as application software (with the \_\_\_\_\_ (Answer: exception) of general relativity, which hasn't yet been successfully ported to this particular OS).

In this tutorial, we will show you how to find specific journal articles using the library catalog. The university \_\_\_\_\_ (Answer: subscribes) to over 18,000 journals across a variety of subjects, most of which are available \_\_\_\_\_ (Answer: electronically) to find a specific journal article using a library catalog. We need to \_\_\_\_\_ (Answer: search) by the journal name as individual article titles are not \_\_\_\_\_ (Answer: listed) in the catalog.

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 \_\_\_\_\_ (Answer: material) reality. Believing is a \_\_\_\_\_ (Answer: commitment), an investment, a devotion to possibilities. Beliefs \_\_\_\_\_ (Answer: permeate) neurobiologies, bodies and ecologies acting as dynamic agents in evolutionary processes. The human capacity for belief, the \_\_\_\_\_ (Answer: specifics) of belief, and I, and our diverse belief systems shape, structure and alter our daily lives, our societies, and the world around us.

Also, malaria is something that is a very complex disease with this complex life cycle. That means that if you're going to \_\_\_\_\_ (Answer: 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



\_\_\_\_\_ (Answer: population). And so that requires a lot of resources. It requires really good planning and a health system across all these different \_\_\_\_\_ (Answer: levels). And so I think the political capital that you need for that, the educational \_\_\_\_\_ (Answer: infrastructure) you need for that, the economic resources you need for that are quite a \_\_\_\_\_ (Answer: challenge).

For a long time now, it's been a widely accepted and \_\_\_\_\_ (Answer: rarely) questioned belief that a strong corporate culture goes hand in hand with success. However, a recent study has \_\_\_\_\_ (Answer: cast) some doubt on this principle. After all, the \_\_\_\_\_ (Answer: authors) of the report argue for culture. A company's build-up may be strong, but wrong. There is little point in every \_\_\_\_\_ (Answer: employee) marching to the same tune if they are all marching in the wrong direction.

I'm going to argue that the \_\_\_\_\_ (Answer: tremendous) increases in productivity that we \_\_\_\_\_ (Answer: associate) with the industrial revolution originate not so much from changes in science or \_\_\_\_\_ (Answer: technology) or new inventions, where England was far from \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: continent). Attitudes toward the proper role of government. And \_\_\_\_\_ (Answer: together), these attitudes constitute much of what the Luddites were protesting against.

One of the things that people have said about agriculture is that on the whole it's more labor \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: coercive) factors — that people have been forced into agriculture because they had no alternative. That is \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: whatever) it might be. Respect, recognition also are important. And in small-scale societies a lot of those sorts of factors are \_\_\_\_\_ (Answer: 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.

For four centuries the Viking \_\_\_\_\_ (Answer: declined), the people of the Shetland Islands off the north coast of Scotland continued to sell their goods through the North European Hanseatic League. The Hansas merchants bought shiploads of \_\_\_\_\_ (Answer: salted) fish and in return the islanders got cash, grain, cloth and other goods. This lasted until the Act of Union between Scotland and England in 1707. This Act prohibited the Hansa merchants from \_\_\_\_\_ (Answer: trading) with Scotland. Consequently Shetland went into an economic \_\_\_\_\_ (Answer: depression). The independent farmers of Shetland had to sell their land and were then \_\_\_\_\_ (Answer: obligated) to pay rent, eventually becoming serfs.

So in a very important tense, um, memory is the cognitive function that stores knowledge that we've acquired through learning and \_\_\_\_\_ (Answer: perception), but also memory is important because memory frees our behavior from being \_\_\_\_\_ (Answer: controlled) by



the present stimulus environment. If you didn't have memory, all you'd be able to do was \_\_\_\_\_ (Answer: react) to whatever is currently in the environment now, whatever it is that you're \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: reflect) on our experiences so that we plan for, for future encounters.

Adidas \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: environment) and good for business. Because if you know that rapidly growing consumer \_\_\_\_\_ (Answer: segment) known as hipsters — and I know you know hipsters — then you know that a hipster faced with the \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: opportunity) to talk about them.

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 \_\_\_\_\_ (Answer: cocoa) fat from it, so it was, or could be quite \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: starch) and things, to make it a more palatable product. So there were a lot of \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: horrible) fat that we can use to make eating chocolate. Now we have a pure product.

Good evening ladies and gentlemen. My theme for this session is \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: aspects) of technology and their impact on business, across a broad \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: sales) force.

So, palm oil is the most widely produced oil crop currently. It's used in a wide range of \_\_\_\_\_ (Answer: industries), including food, bio-fuels, and in soaps and shampoo. However, though the sector's growing fast, unfortunately palm oil grows in exactly the same \_\_\_\_\_ (Answer: environment) as tropical rain forest. So, the use and the \_\_\_\_\_ (Answer: 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 with an \_\_\_\_\_ (Answer: alternative), we can slow the growth of the sector and therefore stop the wide-scale \_\_\_\_\_ (Answer: deforestation) in South Asia.

We've decided to adopt, just as a loose theme for the course, a \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: molecules) that are relevant to your body, the processes that occur in your body, the chemistry that's going on and how \_\_\_\_\_ (Answer: 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 \_\_\_\_\_ (Answer: matter).

Colombia on Tuesday \_\_\_\_\_ (Answer: adopted) a tax reform plan that was at the root of violent anti-government protests that left more than 60 people dead this year, but was \_\_\_\_\_ (Answer: eventually) reconfigured to be kinder to the middle class and the poor. President Iván Duque signed the so-called "social investment law," which has as its stated objective to combat poverty in a country hit hard by the coronavirus epidemic. He says the law will, quote, "benefit nearly 29 million Colombians in a \_\_\_\_\_ (Answer: vulnerable) situation" out of a total population of some 50 million. A first version of the law presented by Duque early this year to combat the economic \_\_\_\_\_ (Answer: consequences) of the global health crisis would have significantly increased taxes on an already battered middle class.

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elsewhere in the country Saturday. The Sudan Doctors Committee said four people died from gunshots and one suffocated from \_\_\_\_\_ (Answer: tear) gas in Khartoum and Omdurman on Saturday. Several other \_\_\_\_\_ (Answer: protesters) were wounded, including from gunshots. The rallies came two days after military \_\_\_\_\_ (Answer: coup) leader General Abdel Fattah al-Burhan reappointed himself the head of the Sovereign Council, Sudan's interim governing body. Thursday's move angered the pro-democracy alliance and \_\_\_\_\_ (Answer: frustrated) the United States and other countries that have urged the military to reverse its coup and to restore civilian rule.

President Trump has warned Turkey's President Erdogan that foreign interference is \_\_\_\_\_ (Answer: complicating) the situation in Libya. It comes after Turkey MPs approved a bill, allowing the \_\_\_\_\_ (Answer: military) to be deployed to interfere in Libya's civil war in support of the UN-backed government in Tripoli. The United States is to ban a number of popular e-cigarette flavors to \_\_\_\_\_ (Answer: curb) the rising use of vaping products among teenagers. However, menthol and tobacco flavors will be allowed to remain on the market and large refillable vaping \_\_\_\_\_ (Answer: devices) are completely exempt from the ban.

There is such a thing as information \_\_\_\_\_ (Answer: overload). There is just so much information out there now that we can't \_\_\_\_\_ (Answer: cope) with it or fully absorb it, or even decide which bits of it we want to keep in our minds, or which to \_\_\_\_\_ (Answer: discard). There is a similar thing going on with the range of choices we have as \_\_\_\_\_ (Answer: consumers). There is so much stuff out there, so much to choose from, that, according to some experts, this situation is making us \_\_\_\_\_ (Answer: miserable). Most of us believe that the more we have to choose from the better, yet apparently our dissatisfaction with this

wealth of choice, or rather the anxiety it produces, is part of a larger \_\_\_\_\_ (Answer: tract). It seems that, as society grows more \_\_\_\_\_ (Answer: affluent) and people become freer to do what they want, the unhappier they become.

It was another roller-coaster week for energy prices. After OPEC and its allies \_\_\_\_\_ (Answer: resisted) calls to increase output, the price of Brent crude surpassed \$80 per barrel and reached its highest level in three years. The cartel said it would \_\_\_\_\_ (Answer: stick) to the gradual increases in output it agreed to over the summer. The energy \_\_\_\_\_ (Answer: shortage) rattled other financial markets too, as \_\_\_\_\_ (Answer: investors) worried about the fallout. In America and Europe government bond \_\_\_\_\_ (Answer: yields) climbed. In Britain the yield on ten-year gilts jumped to its highest since May 2019.

On the face of things, it seems both absurd and \_\_\_\_\_ (Answer: unfair) that large American companies regularly whittle down their tax bills, taking advantage of every loophole on \_\_\_\_\_ (Answer: offer). One study found that at least 55 big companies incurred no federal taxes at all on their profits in 2020. A \_\_\_\_\_ (Answer: proposal) being discussed as *The Economist* went to press, and as the Democratic Party scrambled to fund its social-spending package, seems to offer a popular solution: a minimum tax on \_\_\_\_\_ (Answer: corporate) earnings as reported to shareholders, rather than as massaged down when reported to tax \_\_\_\_\_ (Answer: collectors).

The Intergovernmental Panel on Climate Change \_\_\_\_\_ (Answer: released) the first part of its latest assessment report. The Earth is warming. Even with a drastic \_\_\_\_\_ (Answer: reduction) in greenhouse-gas emissions, temperatures will \_\_\_\_\_ (Answer: probably) be 1.5 degrees Celsius above their late-19th century levels by 2050. Climate change is under way, the report laments, with all the environmental \_\_\_\_\_ (Answer: consequences) that brings. The extent of the damage depends on the cumulative build-up of emissions and can be \_\_\_\_\_ (Answer: limited) if the world strives for net-zero carbon emissions.

European market is a tough terrain for food \_\_\_\_\_ (Answer: delivery) firms. Delivery Hero has had a good \_\_\_\_\_ (Answer: run) in the past couple of years. In August 2020 it ascended to the Dax, the stock market index of Germany's most \_\_\_\_\_ (Answer: valuable) listed firms. It is present in 50 countries on four continents. Revenue for the third quarter was 1.8bn euros (\$2bn), a jump of 89% \_\_\_\_\_ (Answer: compared) with the same period in 2020. "We grew 100% before Corona, 100% during Corona and we will grow 100% after Corona," says Niklas Ostberg, the Berlin-based firm's Swedish chief \_\_\_\_\_ (Answer: executive). By number of orders Delivery Hero is more than twice as big as DoorDash, its large American rival.

The lives of \_\_\_\_\_ (Answer: distinguished) people often take a lot of telling. Yet even devotees might \_\_\_\_\_ (Answer: raise) an eyebrow at the heft of Sir Paul McCartney's memoir: two volumes totaling 960 pages. Casual Beatles fans may be \_\_\_\_\_ (Answer: surprised) by the title, too. Though most would consider Sir Paul the band's best \_\_\_\_\_ (Answer: musician) (with an honorable mention for George Harrison), John Lennon \_\_\_\_\_

(Answer: typically) gets the plaudits for writing. In a poll by the BBC in 2001 to rank the greatest lyricists, Lennon received more than twice as many votes as McCartney.

A \_\_\_\_\_ (Answer: massive) tow truck worked Saturday to remove the remains of a burned-out oil tanker that exploded in a giant fireball \_\_\_\_\_ (Answer: overnight) near the capital of Sierra Leone. Reuters' David Doyle has more. Deputy Health Minister Amara Jambai said the death toll \_\_\_\_\_ (Answer: currently) stands at 99 with more than 100 people being treated in hospitals and clinics across the capital, Freetown. In a video from the scene shared online, the head of the National Disaster Management Agency, Brima Bureh Sisay, said "We've got so many casualties, burnt corpses," adding "It's a terrible, terrible accident." Freetown's mayor said the extent of the damage from Friday's explosion was not yet known, adding that police and her \_\_\_\_\_ (Answer: deputy) were at the scene to assist disaster management officials.

Like every farmer Courtney Hammond, who grows blueberries and cranberries in Washington County, Maine, has a lot of \_\_\_\_\_ (Answer: worries). He frets about weather, invasive species, failed \_\_\_\_\_ (Answer: crops) and global prices. To abide by federal food-safety laws, he has had to do training, maintain meticulous records, have insect- and rodent-control plans and document daily the sanitation of his \_\_\_\_\_ (Answer: processing) equipment. It is a tremendous \_\_\_\_\_ (Answer: amount) of work but it means, he says, "I don't have to worry about anybody getting sick from eating anything that leaves my farm." Now he is worried that a new law may put his hard work in jeopardy. Earlier this month 61% of voters opted to change the state \_\_\_\_\_ (Answer: constitution) to ensure that all Mainers had a "right to food", the first law of its kind in America.

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Even if the distribution of women's \_\_\_\_\_ (Answer: occupations) matched that of men—"if women were the doctors and men were the nurses"—she \_\_\_\_\_ (Answer: calculates) that at most a third of the pay gap would disappear. The most important cause is that women curtail their \_\_\_\_\_ (Answer: careers) as a part of a rational household response to labour markets, which generously \_\_\_\_\_ (Answer: reward) anyone, male or female, who is willing to hold down what Ms Goldin calls a "greedy job." These are roles, such as those in law, accountancy and finance, that demand long and \_\_\_\_\_ (Answer: unpredictable) hours. Parents need somebody to be on-call at home in case a child falls ill and needs picking up from school, or needs cheering on at a concert or football match.

This week we're going to be continuing our discussion of women in society. Last week we looked at a number of \_\_\_\_\_ (Answer: issues) relating to women in education. If you remember, we

discussed women both at school and at university. Today we're going to be considering the \_\_\_\_\_ (Answer: roles) that women play in the workplace. Again, we'll start by taking a historical perspective, and inevitably you'll find that many of the same \_\_\_\_\_ (Answer: events) that impacted on women in education also had a major influence on their working lives. In the second half of the lecture, I'll concentrate on the situation in \_\_\_\_\_ (Answer: Europe) today, and I'll invite you to suggest how you think things are likely to develop over the next \_\_\_\_\_ (Answer: decade). OK, so let's get started.

In 1945, while in a state of \_\_\_\_\_ (Answer: exhaustion), the mathematician John von Neumann had a kind of stammering premonition. He was in Los Alamos, working on the atom bomb, and he told his wife Klari that the “energy source” he was helping to develop would make scientists “the most hated and also the most wanted \_\_\_\_\_ (Answer: citizens) of any country.” Then he \_\_\_\_\_ (Answer: informed) her that his other ongoing project, the computer, would one day be even more important—and \_\_\_\_\_ (Answer: potentially) even more dangerous. Good biographies of some of the greatest mathematical minds are rare: because they were polymaths, biographers who can \_\_\_\_\_ (Answer: interpret) their manifold achievements for the ordinary mortal are themselves thin on the ground. This has been von Neumann’s fate, and the upshot is that he has not had the recognition he deserves.



## WRITE FROM DICTATION

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School exams are easy compared with those in universities.

The staff is cleaning the room for tomorrow morning's meeting.

Students can find news about climate change.

Some studies show the link between depression and social media.

Your tutor will provide the guidance on how to structure the essays.

Mental health professionals are talking about the topic of vulnerability.

She left the lights turned on.

Music has the ability to shape our emotions.

Globalization in the modern world leads to economic growth.

Social policy is a study of social responsiveness for the government.

Employment figures will decrease in the next few years.

Social media is responsible for helping the government to solve social problems.

Collaborative projects help students develop teamwork and problem-solving abilities.

We can see the stars that were formed thirteen billion years ago.

For the purpose of research, data should be collected and analyzed.

Organization plays an important role in academic literature.

The biology department is respected in research activities.

Gravity is the force that attracts two bodies toward one another.

Stories often contain messages in our life.

Our facility includes five libraries across the university.

Computers used to be larger than they are now.

It is important to plan your study time carefully.

The best student has an opportunity to acquire a scholarship.

Late submissions likely won't receive attention or thorough consideration.

A campus tour is beneficial at the beginning of each term.

Regular exercise promotes physical fitness and reduces stress levels in students.

University graduates have opportunities for career advancement and personal growth.

Students often gather in the quad for outdoor events and activities.

The campus cafeteria serves a variety of nutritious and delicious meals.



The library's extensive collection includes books, journals, and digital resources.

Business majors learn valuable skills for leadership and entrepreneurship.

This book discusses cultural impacts on our actions significantly.

Assignments should be submitted before the specified deadline to avoid penalties.

The library is a quiet place to study, research, and find resources.

Effective communication is crucial for success in the business world.

The former lecturer often returns as a visitor to the campus.

Students must submit assignments online through the university's learning platform.

Frequently observed attributes tend to interpret the problem in comparable manners.

Our goal is to effectively improve students' pronunciation skills through instruction.

This research introduces a variety of fascinating new subjects.

He wasn't the only advocate pushing for legal reforms back then.

The library's desk has a vast collection of historical books.

The bookstore carries all required textbooks for your school courses.

Students of accounting should grasp profit and loss statements well.

Zoo animals behave differently than their counterparts in the wild.

Late submissions likely won't receive attention or thorough consideration.

To excel, you must practice a specific skill repeatedly and consistently.

Tomorrow's lesson will assess your understanding of complex material.

Mathematics instructors are presently encountering certain challenges in their teaching roles.

Professionals have developed methods for quantifying plant growth through numerical measurements.

This book discusses cultural impacts on our actions significantly.

The university's website has many additional useful resources available.

Trees in cities help deal with too much rainwater.

Part of the recipe includes adding boiling water to the mix.

The library isn't open as long when it's summertime.

Regular exercise is key to maintaining physical and mental well-being.

University clubs offer students opportunities to pursue their diverse interests.

Students often gather in the courtyard to socialize and relax together.

Maintaining good health is essential for a productive college experience.

The university provides a conducive environment for academic and personal growth.

Campus life offers diverse activities for students to explore and enjoy.



Faculty members are consistently accessible and approachable for guidance and counsel.

Comprehending the intricacies of the global market is imperative for students.

To comprehend human behavior profoundly, one must scrutinize and analyze their actions.

Numerous studies confirm the Earth's temperatures are steadily increasing.

Few employment opportunities exist within this particular job sector.

Online resources now allow viewing of school lectures anytime.

Access the lecture slides and notes online after the class ends.

Thorough testing procedures serve to confirm the accuracy of factual information.

Instructors will grant approval for your extensive paper following thorough discussion.

The concept has inherent imperfections and necessitates thorough and deliberate evaluation.

Digital systems have simplified borrowing books, making it more accessible today.

Scholarships help meet financial needs of students globally and locally.

Student union members can significantly influence university policy changes.

The seminar offers opportunities to exchange and discuss ideas with peers.

To ensure clarity and avoid unnecessary repetition, it's important to be concise.

More research is urgently needed in this particular field of study.

The university's theater group plans to perform at the concert hall.

Most essential course texts are stocked in the university's library.

This cart is made for transporting single items at one time.

There's a push for universal access to free educational services.

By collaborating, we can create statues that are both imposing and magnificent.

Eating regularly during the week has its health benefits.

Studying old times can help us get what's happening now.

He wasn't the only advocate pushing for legal reforms back then.

A consensus on climate change exists among many esteemed scientists.

Accounting students typically understand economics, statistics, and some psychology.

We're trying to come up with new solutions for society's big issues.

Trains help people travel far places much more easily.

As the world gets more crowded more trees are being cut down.

Cultures around the world are finding ways to talk to each other.

The graph shows that there hasn't been a lot of growth recently.

Make sure to include the pictures from the lecture in your work.



Our company is planning to recruit many new employees worldwide.

Getting involved in art makes us really value the world around us.

Being flexible in your career choices is becoming increasingly crucial.

This shows us that there are a few different problems happening together.

All living things start from a single cell that's very basic.

Our school works with others around the world to swap students.

You're not allowed to use your cell phones in the library here.

Good journalism stays important and influential for a very long time.

City planners work to make our neighborhoods work better and grow.

Our school lunch place has lots of different snacks and drinks.

The sources listed for this essay don't really cover what's needed.

We can add up numbers perfectly without making mistakes using calculators.

Journalists with qualifications often have many different job opportunities.

The best managers are always open to trying new things.

Great actors seem to naturally know how to own the stage.

Please put the book back where it belongs in the library.

Doing activities outside class helps students learn more skills.

With the weather changing, farmers are changing how they farm.

Soon, a well-known conductor will lead the orchestra in concert.

Philosophers use logic to deeply understand why people do things.

Going to the museum is a really good learning experience.

Working out makes you feel good and keeps your body healthy.

You'll learn what you need to do in the class outline.

The goal is to get new people to invest in the company.

There are many ways to manage a business well.

We've managed to get rid of some illnesses completely.

Trees in cities help deal with too much rainwater.

Banks are trying to make money from markets that are growing fast.

Our classes give you the skills you need for later.

Career advisors give tips on how to do well in job talks.

People tried to make really big statues a long time ago.

Sugar is something that has carbon, oxygen, and hydrogen in it.



These students learned a lot from teachers who knew a lot.  
Remember, your homework is due next Tuesday without fail.  
Schools really care about stopping students from copying work.  
A good abstract quickly tells you what the study is about.  
Make sure to read chapter one before our management class.  
The thief habitually broke into several different homes each day.  
Learning to think critically is a big part of good education.  
The history class includes three big writing assignments for grading.  
There are four main parts to the project you're doing.  
Special programs let you look into what you're interested in.  
Watching people helps us figure out why they do things.  
They're fixing up every part of the building right now.  
The sea level going up shows the climate is changing.  
Health experts recommend consuming fish for its nutritional benefits.  
The class teaches you about numbers and how to use them well.  
Good design can make a big difference and shouldn't be ignored.  
The assembly decided to give more power to local places.  
This study gives new ideas about what people think of tech.  
Plants can keep growing for as long as they live.  
Going to other countries to study is part of our school program.  
Make sure you're not late; class starts exactly on time.  
Gold is very special and expensive because it's rare and pure.  
This school is really good because it has a long tradition.  
You can buy things for school at the shop for students.  
Using charts makes it easier to understand numbers and data.  
After class, we can all meet in the main school office.  
Your grades come from working alone and with others on projects.  
Private money often pays for job training courses at schools.  
They found a laptop in the place where they study biology.  
The book argues that sometimes tech does more bad than good.  
The book argues that sometimes tech does more bad than good.  
Our school has lots of different things for students to use.





Honey can be used as food and health product.

Psychology and philosophy aren't really related most of the time.

Thinking clearly about what you're saying is important at school.

Thinking clearly about what you're saying is important at school.

Keep practicing a lot if you want to get good at something.

Sugar consists of carbon, hydrogen, and oxygen in small amounts.

Cells in animals and plants are kind of similar to each other.

Kids learn their first language easily without any lessons.

We're not taking requests for more stuff right now, sorry.

Marine environment has been destroyed by pollution and unsustainable development.

Printers now automatically print stuff on both paper sides.

Old tools and artifacts are found at archeological dig sites.

New economics students have a meeting coming up on Tuesday.

Answering some questions is needed to change your password.

The government should help colleges and universities to grow bigger.

Visit the gallery on Fridays when it's open to everyone.

Sign up now if you want to go to the conference.

Tribes vied with each other to build up monolithic statues.

There's going to be a show in the main hall at school.

You need to put these books on the table over there.

Class representatives will bring forms for you to vote on things.

Assignments must be submitted at the end of the term.

Extension requirement for the assignment must be submitted before the deadline.

Too much information may be avoided by good research design.

The university has invested in the new technology designed for learning.

The area has a number of underwater habitats and species.

Late applications are not accepted under any circumstances.

Students should leave their bags on the tables by the door.

Gold is a metal that appears naturally in a pure state.

Creativity is more important for undergraduates.

The university is seeking funding for a project focused on climate change mitigation.

We will hold a celebration for the graduate students.

Writing history needs a careful selection process of diverse sources.



Firm conclusions can be established through rigorous experiments.

The library will be closed for staff training tomorrow morning.

Agricultural development is vital for poor rural areas.

The author expressed an idea that modern readers inevitably cannot accept.

The news will not be received until the following week.

You are required to attend lectures and write weekly reports.

Criminal charges will be brought against all of the men.

They developed a unique approach to training their employees.

I thought it was thrown in a small meeting room.

Resources and materials are on hold at the library reference desk.

Astronauts are using light years to measure the distance in space.

Listening is the key to succeeding in this course.

Human beings compete with other living things for resources and space.

Strong liner is used to measure distance and baseline.

Everyone must evacuate the premises during the fire drill.

Many vocational courses in the institution are funded by private enterprises.

A laptop has been found at the biology lab.

The opening hours of the library are reduced during summer.

The reception staff can give advice about renting private accommodation.

A group meeting will be held tomorrow in the library conference room.

Universities should invest in new technologies designed for learning.

Tutors should set a clear goal at the start of the class.

The library offers study rooms, computer access, and research assistance services.

This island marks the southernmost point of the large bay.

My technique is to understand the sentence while writing the first letter of each word.

Population has a sharp rise in the recent twenty years.

The final academic year includes coursework and a major project.

Balancing coursework and a part-time job requires effective time management.

The designers have plans to finalize the project by today.

Updates to the course reflect recent changes in the field.

Meeting project deadlines is essential for academic and professional success.

Students enjoy special discounts at the coffee house all week.



Near the entrance, you will find the building dedicated to chemistry.

This camera has the technology to detect and focus on eyes.

