

PTE PREDICTION FILE JAN 2026



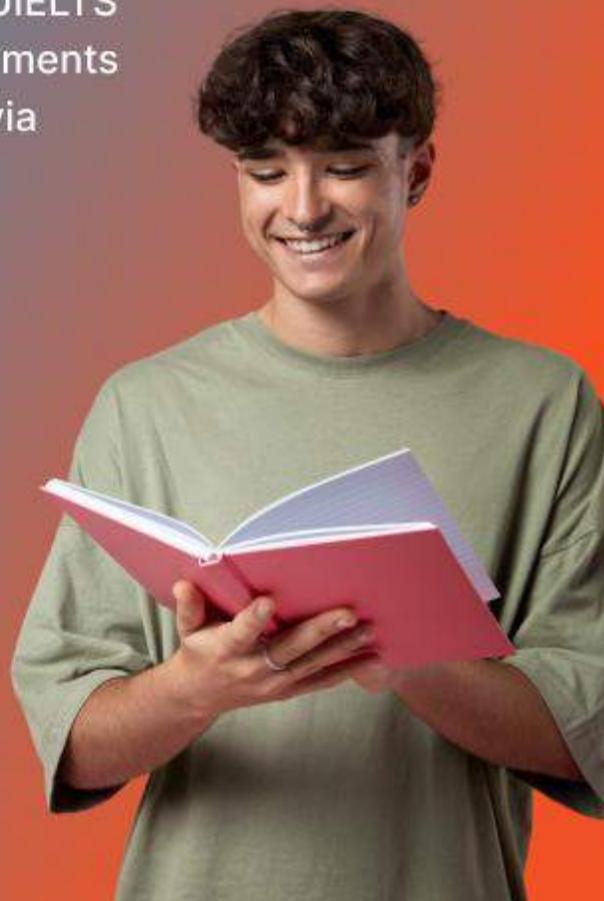
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- REPEAT SENTENCE
- DESCRIBE IMAGE
- RETELL LECTURE
- ANSWER SHORT QUESTION
- WRITE ESSAY
- SUMMARIZE WRITTEN TEST
- READING AND WRITING FIBS
- SUMMARIZE SPOKEN TEXT
- LISTENING FIBS
- WRITE FROM DICTATION



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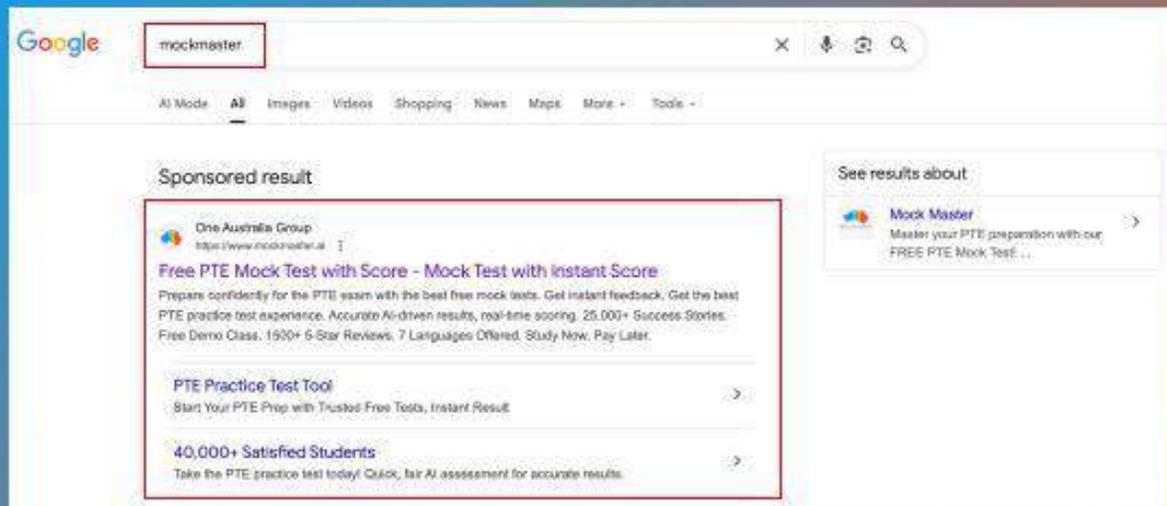
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PTE Prediction File – Jan 2026

Speaking

Read Aloud

Some 160,000 people have some form of dementia in Sweden, Alzheimer's disease being the most common, a figure that is rising with our life expectancy. At the same time, many new diagnostic methods and early-intervention therapies have been developed in recent years, which foregrounds the need to identify more risk factors for the disease.

The hardness of materials is determined by the strength of the chemical bonds that are formed between the electrons of the neighboring atoms. For example, the bonds in diamond are very strong, so it is one of the hardest materials known. The bonding is rooted in the laws of quantum mechanics.

When we engage in social interactions, like shaking hands or having a conversation, our observation of other people's actions is crucial. But what exactly happens in our brain during this process: how do the different brain regions talk to each other? Researchers provide an intriguing answer: our perception of what others do depend more on what we expect to happen than previously believed.

The prevalence of depression has increased significantly in recent years, with rates ranging from 10% to 20% in the general population. Adolescents and children are also affected by this disorder. Various factors, including genetic predisposition, neurochemical imbalances, and psychosocial stressors, contribute to the development of depression.

William Shakespeare, the renowned English playwright and poet, is widely regarded as one of the greatest writers in the English language. Born in Stratford-upon-Avon, England, around April 23, 1564, Shakespeare's works continue to captivate audiences with their profound insights into human nature and enduring literary brilliance.

Known for their discipline, organization, and superior training, the Roman soldiers were highly skilled and well-equipped. The army consisted of various specialized units, including infantry, cavalry, and auxiliary troops recruited from conquered territories. They employed innovative tactics such as the famous "testudo" formation and utilized advanced weaponry and siege engines.

Space exploration has captivated human imagination for centuries, offering glimpses into the mysteries of the universe and inspiring scientific innovation. However, space exploration also raises ethical

questions about its cost, safety, and impact on Earth's environment. As we continue to explore space, it is important to balance our curiosity with responsible practices that prioritize safety and sustainability.

It is important to note that even "good" stress can lead to spikes in blood sugar levels. Mental and physical stress, such as worrying about your job or getting sick, can create negative stress. But even positive or exciting events, like riding on a roller coaster or winning an award, can create stress on your mind and body.

Liver cancer can be fatal, but experts are still working to understand how to best screen for and prevent liver cancer. Data from a recent study suggests that a diet high in processed fiber could increase some people's liver cancer risk. Testing for the level of bile acids could help identify people at risk of developing liver cancer who may need a lower intake of fiber.

The central idea of this book concerns our blindness with respect to randomness, particularly the large deviations: why do we, scientists or nonscientists, hotshots or regular Joes, tend to see the pennies instead of the dollars? Why do we keep focusing on the minutiae, not the possible significant large events, in spite of the obvious evidence of their huge influence?

Today's global food system is responsible for around a third of greenhouse-gas emissions and meat production is one of the biggest culprits. Despite this environmental impact, meat-eating is on the rise. Plant-based and lab-grown alternatives can convert carnivores away from conventional meat and reduce emissions.

Cancer is most treatable when caught early. But despite the vast resources aimed at finding ways to detect the disease in its initial stages, many people who qualify for existing screenings still do not receive them. Some are unfamiliar with the constantly evolving guidelines on when and where to get tested. Others have never been informed that they need exams in the first place.

Six decades after the British novelist and chemist C. P. Snow famously decried the "gulf of mutual incomprehension" between the sciences and the humanities, the chasm often seems larger than ever. Science has grown more technically demanding over the years, even as the shared public experience of art and culture has fragmented.

The evidence for the harmful effects of alcohol on brain health is compelling, but now experts have pinpointed three key time periods in life when the effects of alcohol are likely to be at their greatest.

You used to think that being green was a luxury for your company, but climate change has made you realize that you can no longer ignore it. The buzz is about becoming carbon-neutral, but where do you start? Consider your drivers. Do you want to become carbon-neutral for marketing reasons, for financial reasons or to help save the planet?

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.

The preparation of abstracts is an intellectual effort, requiring general familiarity with the subject. To bring out the salient points of an author's argument calls for skills and experience. Consequently, a considerable amount of qualified manpower that could be used to advantage in other ways must be diverted to the task of facilitating access to information.

For the purposes of argument, culture is divided into material and non-material, and the speaker's aim is to show how they both affect each other. Material developments in tools and technology can affect non-material culture, our customs and beliefs, and the other way around. Genetics is used as an example as it has changed the way we think about life, but also our beliefs have affected its rate of development.

Free trade is an economic policy under which the government does not interfere with trade. No tariffs are applied to imports or exports, and people are allowed to trade goods and services as they please. Supply and demand dictate the prices for which goods and services sell and are the only factors that determine how resources are allocated in society.

A smoking ban is a public policy that includes criminal laws and health regulations that prohibit smoking in certain public places and workspaces. There are varying definitions of smoking employed in this legislation. The strictest definitions define smoking as being the inhalation of any tobacco substance while the loosest define smoking as possessing any lit tobacco product.

Repeat Sentence

The buildings looked lovely in the bright sunshine.

The bus in front of the building will take you to bus station.

The car he was riding crashed into a train.

The chief executive reads several new books every month.

The city needs improved infrastructure to attract more investments.

The clear evidence between brain events and behavioral events is fascinating.

The coffee is free for the university students on weekdays.

The fertile plains in the east of the region provide excellent land for farming.

The latest version of the operating system has many flaws.

The law library is closed on Sundays and public holidays.

The lecture tomorrow will discuss the educational policies in the United States.

The opposition has so far been unresponsive to our proposal.

The pharmacy was closed when I went past this morning.

The pollution level in New Delhi has reached an alarming level.

The Psychology Department is looking for volunteers to be involved in research projects.

The purpose is to build new houses for local people.

The research paper should begin with a thorough review of the literature.

The School of Arts and Design has an open day on Thursday next week.

The seminar on writing skills has been cancelled.

The seminar will now take place once a week on Tuesday.

The smart city is an idea that has captured the imagination of governments all over the world.

It seems that language appears from nowhere.

The thoughts never cross my mind.

The tutor is there to help, so do ask if you don't understand anything.

The tutorial is held on the 8th of April.

The university is dedicated to providing quality education to all students.

The lecture management in Japan will take place in the week seven.

The vocabulary with particular meaning is jargon.

Theories are based on practical as discussed.

There are varying plagiarism across different university departments.

There is little evidence available to contradict his viewpoints.

There is no entrance fee for tonight's lecture.

There is varying plagiarism across different university departments.

The health center is situated at the corner of the university behind the library.

There will be a guest lecturer visiting the psychology department next month.

There will be ample opportunities to ask questions about the presentation.

There's an hourly bus service from the campus into town.

This is the third time you've asked for an extension on this project.

This lecture was meant to start at 10.

This material is good for the next week's seminar.

This module develops our understanding of the theory behind advertising campaigns.

Safety glasses should be worn while doing experiments in the lab.

This science fiction novel uses inventions of better space to create the setting.

To improve the essay, I decided to include more direct quotes.

Try to explain how your ideas are linked so that there is a logical flow.

Tuesday's lecture on social psychology will now take place in the central hall.

Visual aids can make presentations clear and more interesting.

Vocabulary in a special field is jargon.

We are delighted to have professor Robert to join our faculty.

We don't accept assignments submitted after due day.

We need to hand in our assignments by the end of this week.

When we think about communication we think about interaction.

Would you prepare some PowerPoint slides with appropriate graphs?

You can find the student service desk located on the ground floor of the whole building.

You are not permitted to take reference books out of the library.

You don't have to be on Professor Smith's course to attend this lecture.

You must complete this chapter before going to the field trip.

You must read the supplementary materials as the professor has a habit of asking questions from it.

You must take 3 core and 2 elective courses in this semester.

You need to write a proposal for your research.

You should raise your concern with the head of school.

No crop responds more readily than careful husbandry and skillful cultivation.

The chief economist has radical ideas for the economy.

Colombia is a world-leading coffee exporter.

If you have problems, please contact your tutor.

Politicians can make better decisions if they listen to the public opinion.

Please write your name on essay cover sheet.

The registration for courses is open for new students.

The doctor was not here today.

The seminar papers should be submitted in the main office which is located behind the library.

Most scientists believe that climate change threatens lives on the earth.

Does the college refectory offer vegetarian dishes on a daily basis?

He was not the only one to call for legal reform in the 16th century.

Our class is divided into two groups. You come with me, the others stay here.

That brief outline takes us to the beginning of the 20th century.

In our city, students have access to thirteen college libraries.

You need to give a better example to support your argument.

You can download all lecture handouts from the course website.

Please sort and order the slides of the presentation according to topic and speech time.

Once more under the pressure of economic necessity, practice outstripped theory.

Hypothetically, insufficient mastery in the areas slows future progress.

Research has found that there is no correlation between diet and intelligence.

Please explain what the author means by sustainability.

Students are not allowed to take the journal out of the library.

The well-known economist was supposed to reread the subscription before eight.

You can retake the module if your marks are too low.

Hemoglobin carries oxygen from lungs to other parts of the body.

But they haven't come to widespread use yet.

The investigation aims to establish stains of the problem.

There is a limited amount of departmental funding which is available for qualified students.

The chemistry building is still open during vacation.

During that period, heavy industry grew rapidly in the north of the country.

Tomorrow's lunchtime seminar on nuclear engineering has been postponed.

It's important to keep this medicine in the fridge.

His academic supervisor called in to see him last night.

The task proved much more difficult than we had imagined.

She doesn't even care about anything but what is honest and true.

This session is not supported by documentation.

The television output is giving evidently educational programming.

The study of archeology requires intensive international fieldwork.

That country's economy is primarily based on tourism.

Leading scientists speculate that numerous planets could support life forms.

It is argued that students can learn more in collaborative rather than individual study.

He is almost never in his office.

I would like an egg and tomatoes on white sandwich bread with orange juice.

You must go to the reception to pick up your student card.

Chapter one provides the historical background to the topic.

Storytelling is a common teaching technique in many countries.

Folk tales are passed orally from generation to generation.

In the 1830s, periodicals appeared in large numbers in America.

His lecture is always useful and stimulating.

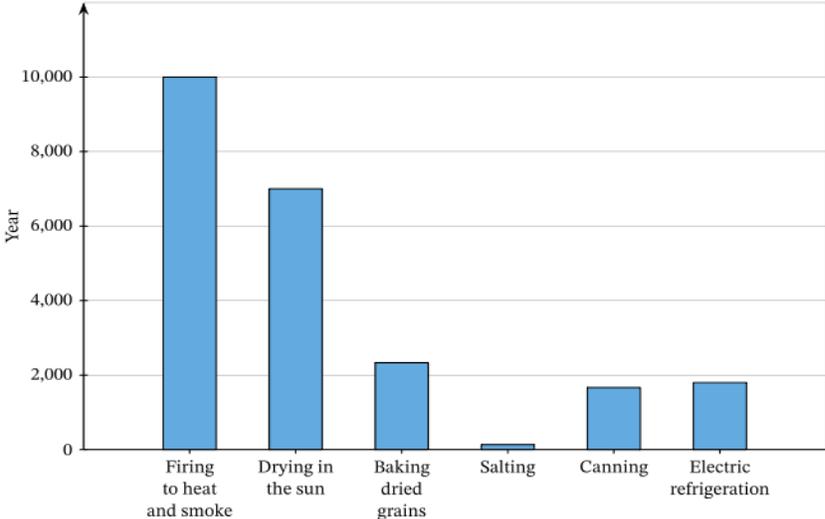
The US ranks twenty second in foreign aid, given it as a percentage of GDP.

Meeting with mentors can be scheduled for students who require additional support.

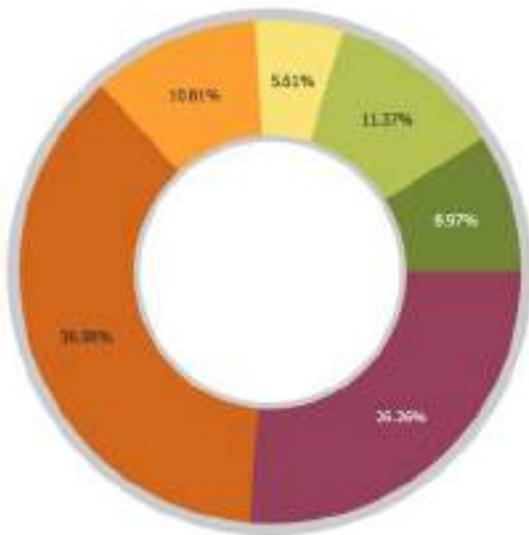
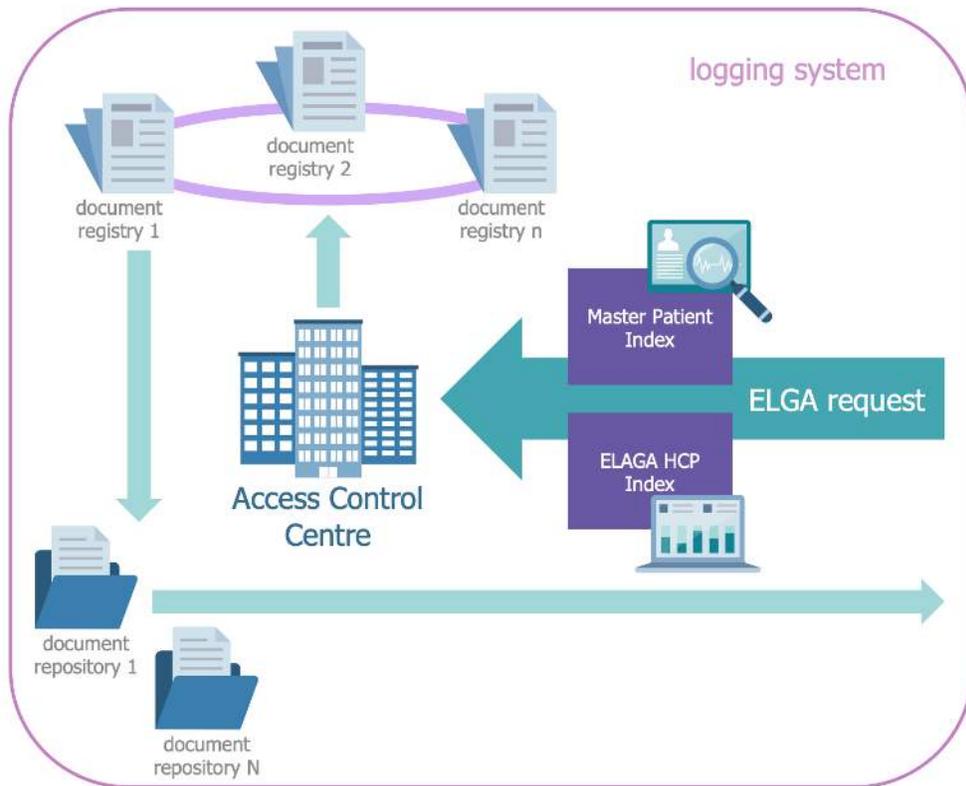
I am pleased to report that many topics have been involved in this lecture.

Describe Image

Food Storage throughout History

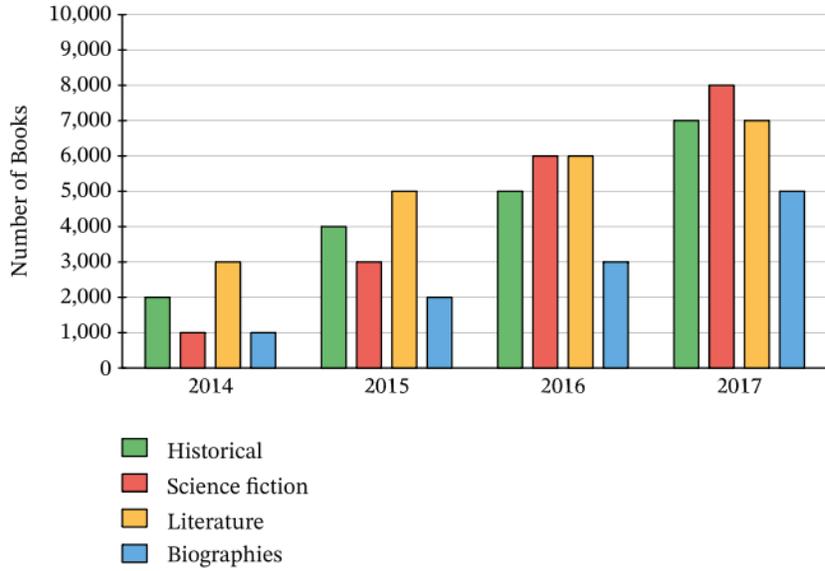


Graph 1

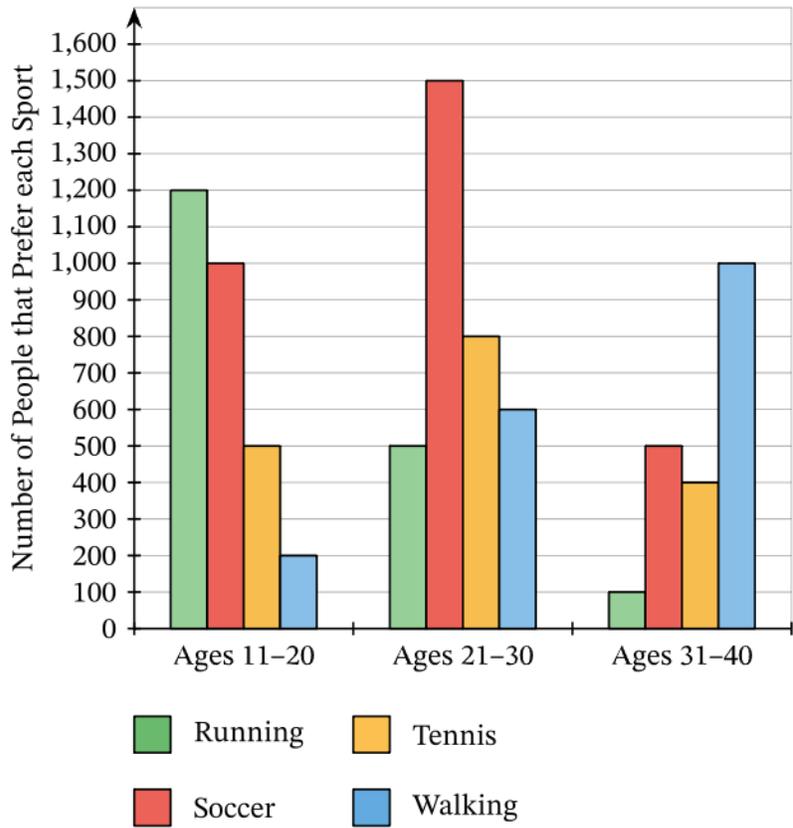


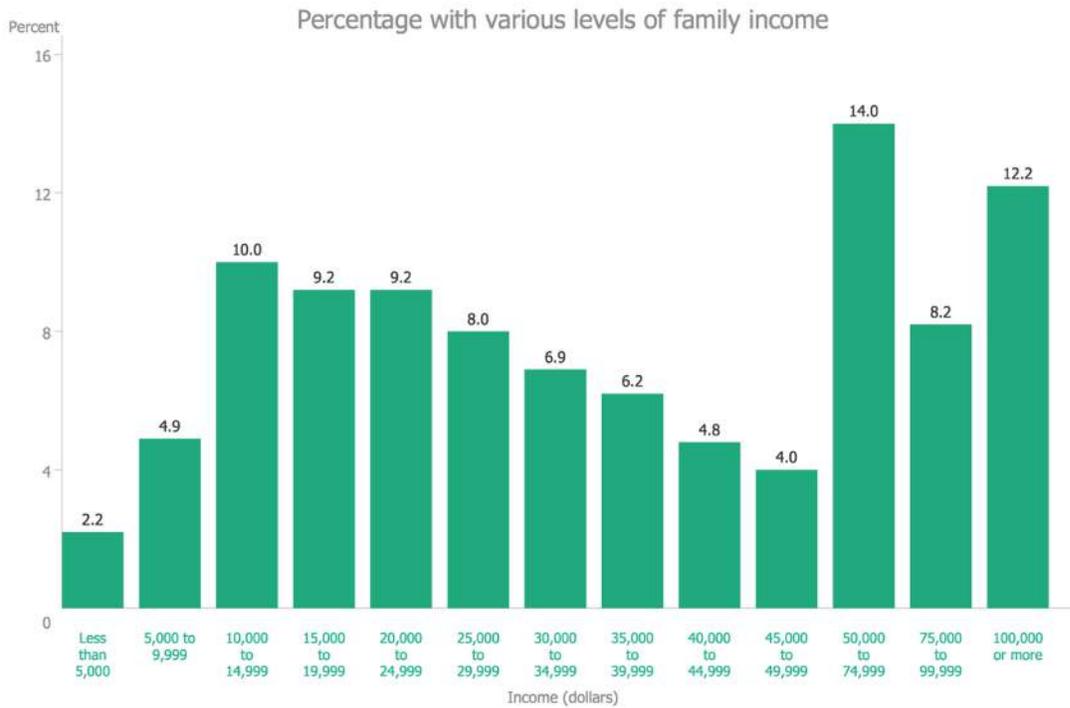
| | |
|---|------------------------|
| General Government | \$470,033,668 |
| Administration of Justice and Public Protection | \$98,187,126 |
| Resource Protection and Development | \$294,306,740 |
| Transportation | \$567,098,677 |
| Health and Social Services | \$1,938,529,891 |
| Education | \$1,376,652,120 |
| Total | \$5,142,807,523 |

Number of Books of Four Different Genres
in a Four-Year Period



Preferred Sports for People of Different Ages





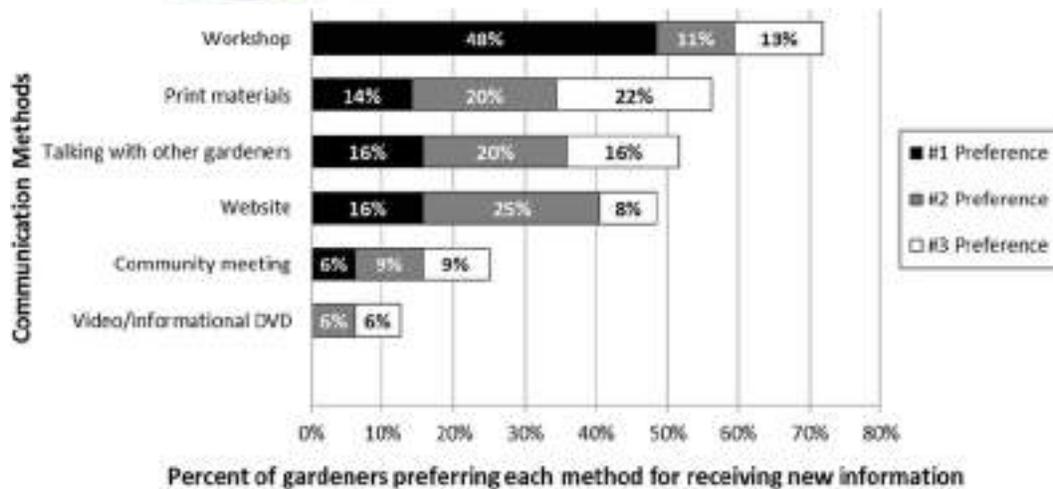
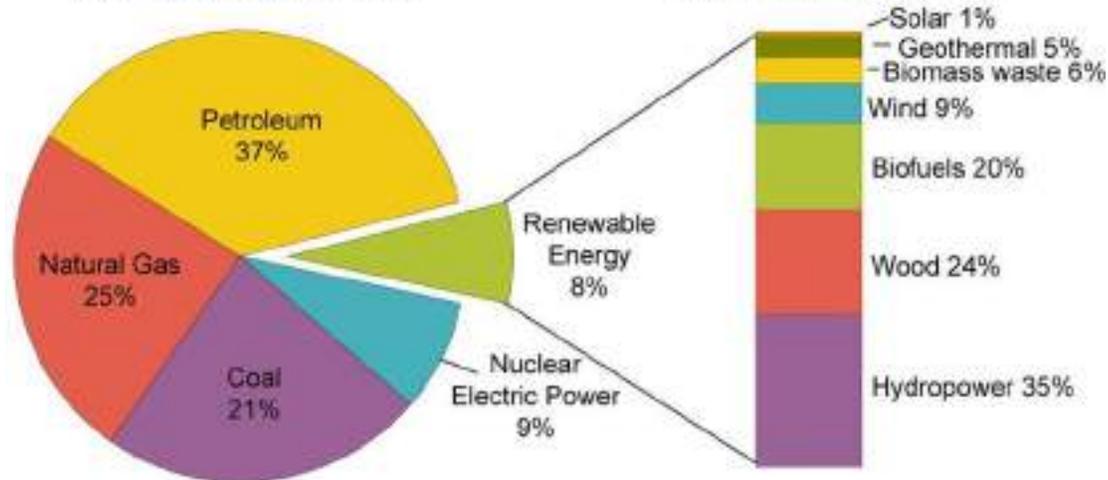
Average Annual Returns for the periods ended October 31, 2012

| One Year ended 10/31/12 | Three Year | Five Year | Ten Year | Since Inception |
|-------------------------|------------|-----------|----------|-----------------|
| 12.36% | N/A | N/A | N/A | 2.97% |
| 12.61% | 5.15% | (4.52%) | 8.08% | 11.59% |
| 10.11% | 8.48% | (2.30%) | 7.77% | 7.16% |
| 15.21% | 13.21% | 0.36% | 6.91% | 9.48% |

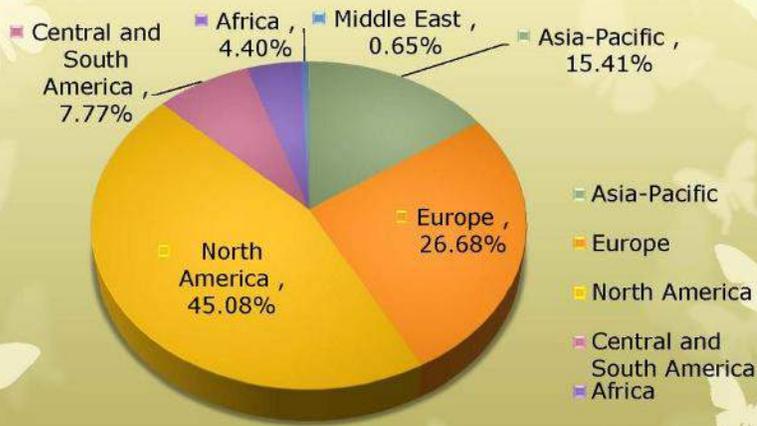
U.S. Energy Consumption by Energy Source, 2009

Total = 94.578 Quadrillion Btu

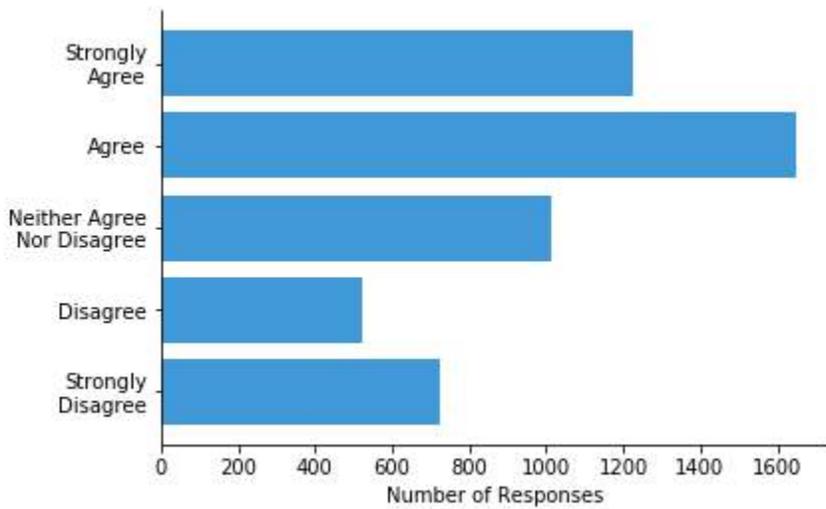
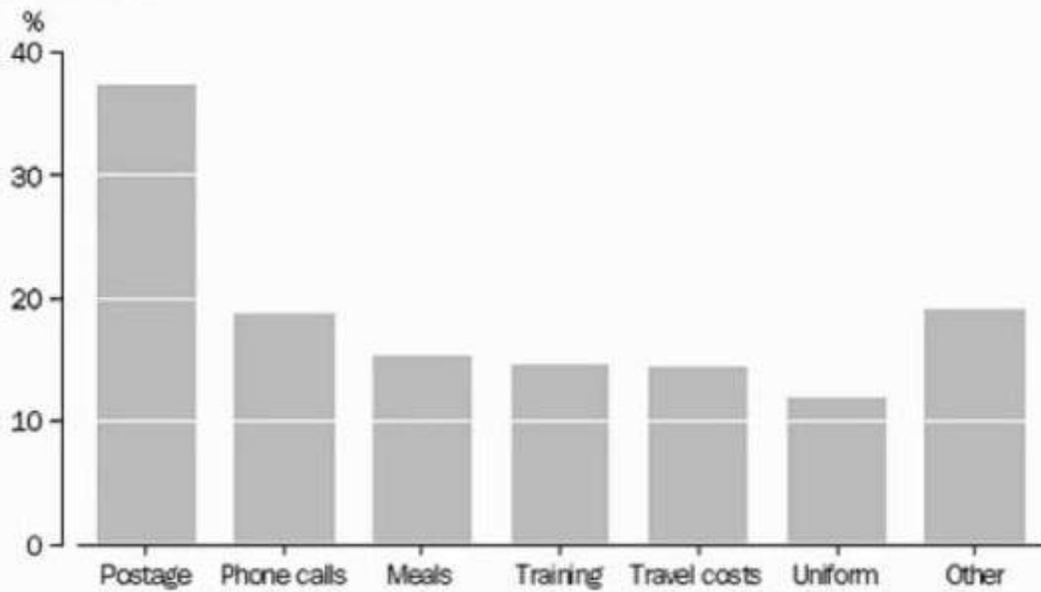
Total = 7.744 Quadrillion Btu



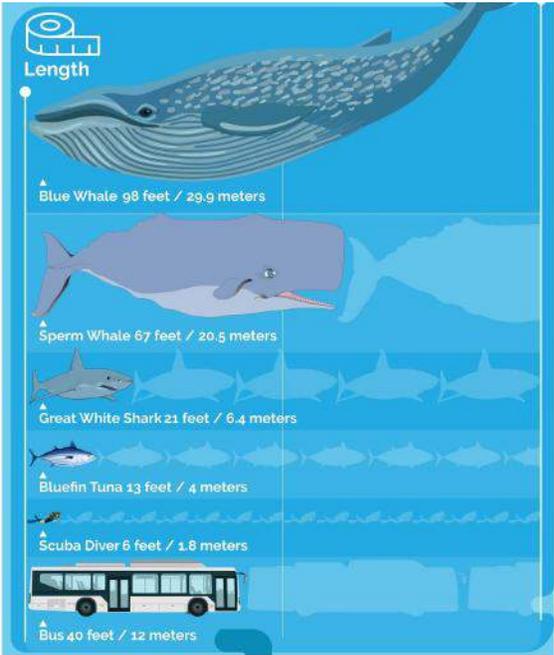
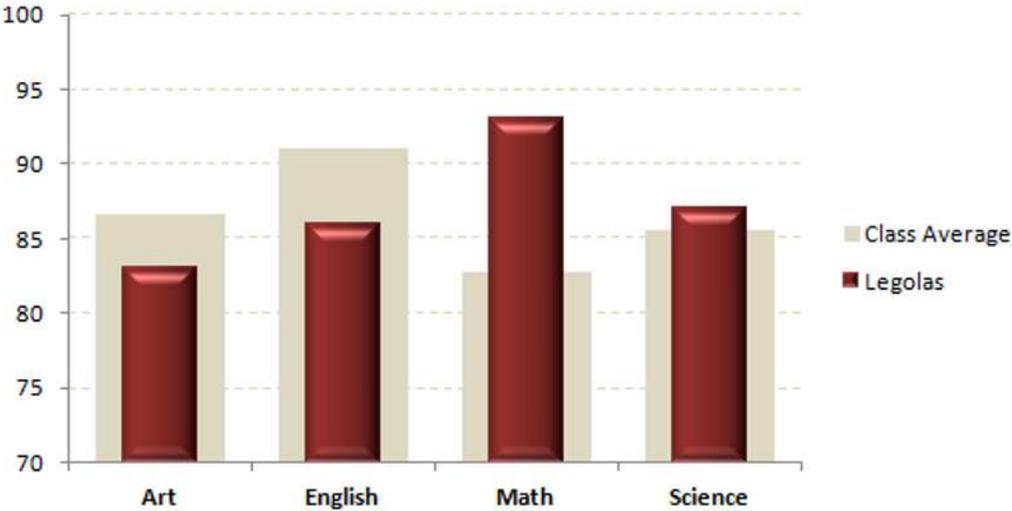
Pie chart on foreign visitors received by the ICD in 2015 (by area)



VOLUNTEERS WHO INCURRED EXPENSES: REIMBURSEMENT AVAILABLE

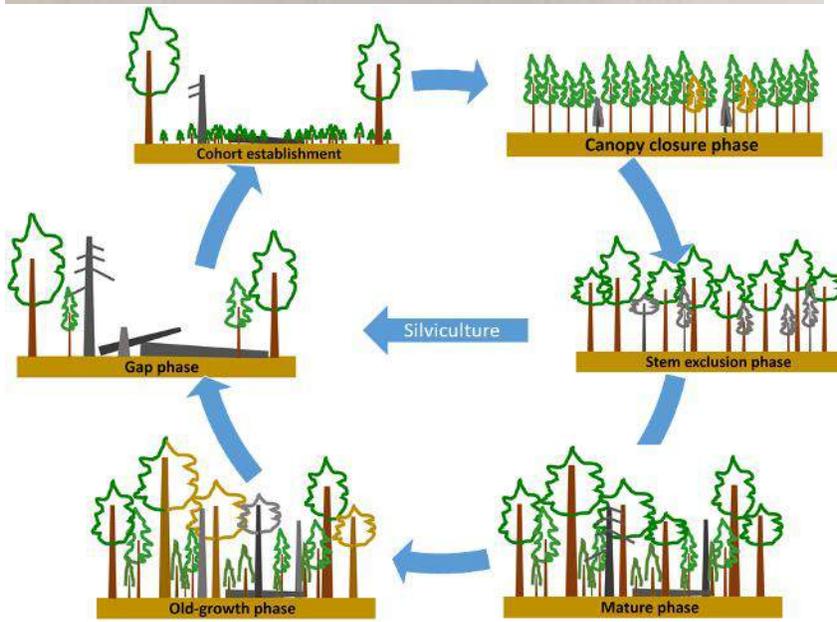


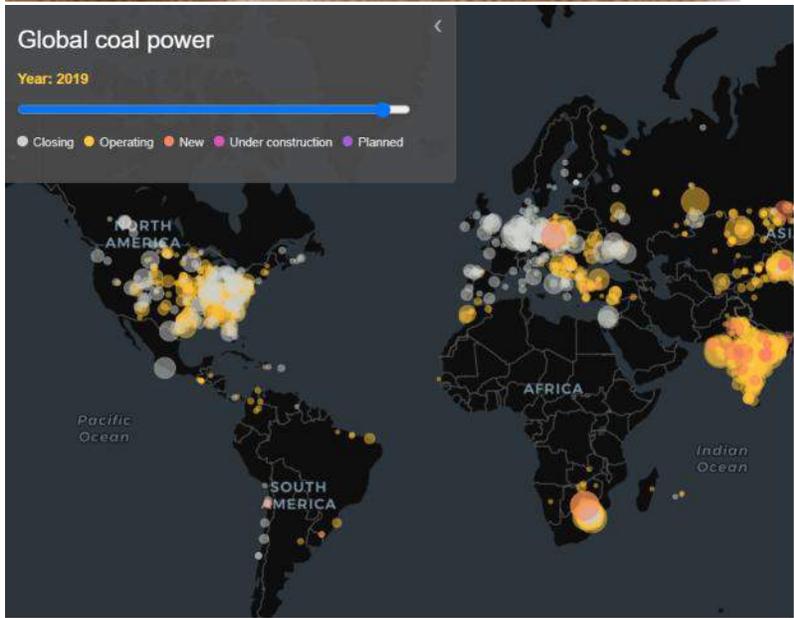
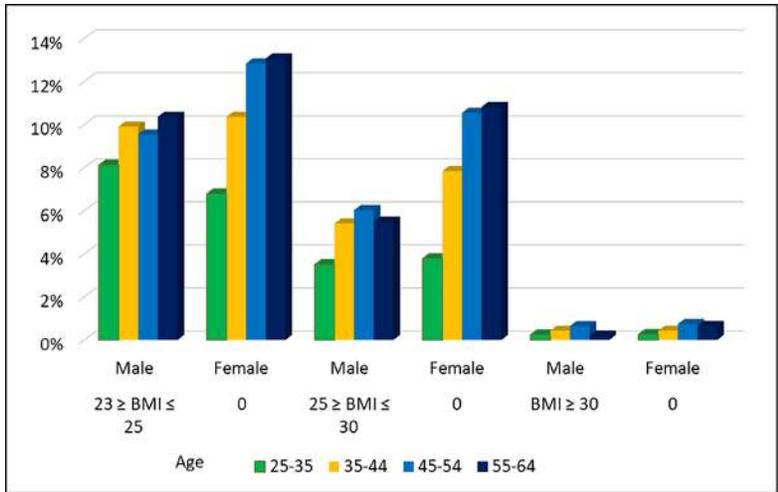
Legolas's Marks vs Class Average



Australia: Inbound visitors (2005 & 2006)

| Inbound visitors to Australia | 2005 | 2006 |
|-------------------------------|------|------|
| New Zealand | 1099 | 1073 |
| Japan | 574 | 586 |
| United States | 700 | 720 |
| German | 430 | 410 |
| short-time stays | ... | ... |





Retell Lecture [Transcripts]

Conduct disorder in children is very serious. It's a disorder of childhood and adolescence that is long term, that's chronic, where children have very aggressive impulses, where children are involved in difficulties with the law and really seem to have no regard for the rules or for authority. When children have conduct disorder, they are definitely at risk of carrying these difficulties into adulthood which also brings about a myriad of different problems. Children with conduct disorder often have difficulties in schools, have difficulty with relationships and have difficulty with employment and lifelong long-term relationships. It's important to recognize that if your child is not doing well in school, if your child has had difficulty where legal action was necessary, if your child is bullying, getting into fights and this is constant and ongoing, if your child does not get help these complexities will really exacerbate into other major difficulties. Look for signs of your child's grades dropping, look for signs of repeated detentions, suspensions and brushes with the law. Parents, please recognize that if your child has signs of conduct disorder the sooner you get help, the sooner your child can start to learn more adaptive behaviours.

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 were in fact some of the earliest types of motorized vehicle. At the beginning of the twentieth century electric cars were actually more popular than cars with an internal combustion engine as they were more comfortable to ride in. However, as cars fuelled by petrol increased in importance, electric cars declined. The situation became such that electric vehicles were only used for certain specific purposes - as fork-lift trucks, ambulances and urban delivery vehicles, for example. Although electricity declined in use in road vehicles, it steadily grew in importance as a means of powering trains. Switzerland, for example, was quick to develop an electrified train system, encouraged in this no doubt by the fact that it had no coal or oil resources of its own. Nowadays there is renewed interest in electricity as a means of powering road vehicles. Why is this the case? Well, undoubtedly economic reasons are of considerable importance. The cost of oil has risen so sharply that there is a strong financial imperative to look for an alternative. However, there are also environmental motivations. Emissions from cars are blamed in large part for - among other things - the destruction of the ozone layer and the resultant rise in temperatures in the polar regions. A desire not to let things get any worse is also encouraging research into designing effective electric transport.

One other key to Apple is Apple's incredibly collaborative company, and so you know how many committees we have in Apple? Zero. No committee. We are organized like a start-up. One person in charge of iPhone OS software, one person is in charge of Mac hardware. One person is in charge of iPhone hardware engineering, another person is in charge of worldwide marketing, another person in charge of operations. We're organized like a startup. We're the biggest startup on the planet and we all

meet for three hours once a week and we talk about everything we're doing the whole business and there's tremendous teamwork at the top of the company which filters down to tremendous teamwork throughout the company. And teamwork is dependent on trusting the other folks to come through with their part without watching them all the time but trusting that they're going to come through with their parts and that's what we do really well and we're great at figuring out how to divide things up in these great teams that we have and all work on the same thing, touch basis frequently and bring it all together into a product. We do that really well and so what I do all day is meet with teams of people and work on ideas and solve problems to make new products to make new marketing programs whatever it is.

The Internet is changing everything. The world of language in the future is totally different from the world of language in the past and the reason is quite simple. There is more written language on the Internet now than all the libraries in the world combined. We've never seen anything like it before and we haven't seen anything yet. When you're talking about the future of a language. We are asking about its long-term prospects, where do they essentially lie? And my answer is they lie in the young people, they lie especially in the hands of teenagers. The teenagers are the parents of next generation of children. If teenagers are going to succeed in maintaining the intergenerational transmission of a language, then they have got to be infused about the minority language, the endangered language that their parents and others speak, so how would you get teenagers infused is the question. Well, there is no question today, the only thing that infuses teenagers, apart from sex, is internet and all the electronic world. And so that is the area where one has got to focus. A minority language has got to get itself up electronically in all the varieties that are available to it. Now in the case of something like Welsh, there is already quite a strong Welsh presence on the World Wide Web and increasingly there are Welsh chat rooms, Welsh blogs, Welsh face book interactions and so on. Well, this is a very positive sign, and it needs to be reinforced as much as possible. The future of the Welsh language, I think all languages actually lies in the electronic domain.

So today we're continuing to talk about the social history of foodstuffs, and we're going on to consider next the importance of salt and the significant role it has played. 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.

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. Now since your view of reality is every bit as valid as my view of reality. That means you cannot really say the past is gone because that might be your now, your reality. You cannot really say that the future is yet to be, maybe the future to me might be your now, your reality at that given moment, so in a sense past, present and future are all equally really, all exist, all out there.

How much sun exposure might one need to get their target vitamin D level to that found associated with the lowest total mortality rate? Well, it depends. It depends on our age, how long we're exposed, the time of day, the time of the year, our latitude, our skin colour, our use of sunscreen, and how much of our body we're exposing. Even in Boston, though, all it takes is 10-12 minutes of mid-day summer sun without sunblock, if you're a young pale naked Caucasian. But then you're golden! Actually, you'd be a little pink. Note though, if you are some old white guys prancing around naked on the Commons, you're not going to make it. As I hope you are beginning to appreciate, it's not easy to make one-size fits all recommendations for how much sun exposure one might need. And Low vitamin D status despite abundant sun exposure has been found even in the best of circumstances: young half naked skateboarders in Honolulu, mostly Caucasian, averaging 30 hours of sun a week, and 51% didn't even make it to 30. If they can't, who can? And these days, even if we're an albino nudist at the equator, how often might we be getting outside in middle of the day with a desk job? So, if we're really interested in getting to the vitamin D level associated with the lowest mortality rates, and our lifestyle or latitude won't allow us the necessary sun exposure, then one needs to take vitamin D supplements: the piddly amount added to soymilk, calf-milk, margarine or mushrooms are simply not enough.

Alright, so for example, if now this is interesting, if your eyeballs are in the front of your face, you're seeing things. The part of your brain that lights up when you see something is actually back here. So, if you actually were watching like in my class, I'm sure the PowerPoints to die for and do the part of the brain that activated at that moment is way back there. If I'm giving the speech of a lifetime in my students are like more, more, on like this is the part of the brain that lights up, for example, I am just characterizing here interestingly enough if that's all you did. You are lecturing, you giving presentations, that's it. There's a whole bunch of other areas in the brain that does not tend to get activated if what you really do is the kind of traditional didactic approach. So now that other senses, ok, there's other kind of the senses and if you if processing was involved in the signal kind of spread out further and further. There is classification at the part of the cortex. This deeper areas of the brain by the way, but we're just looking at the surface which where the high is cognitive function to kind of showing up but you got vision processing back here. You've got sound processing back here. There's kind of a giant swath here

that will deal with the sensory perception film touch. Smells tend to be directly kind of on the surface it out of the way. It's very old part of the cortex underneath there. I'll and yet we only sort of channel stuff into those areas which it seems extremely can narrow focus.

The brand is the talent and let's stick with that sports analogy, the answer is you can spend 450 million dollars in the stadium. But if over a ten-year period, the player talents no good, and there're more losses than their wins, they are going to be a lot of more empty seats in their foyers, right? No matter how good the marketing is, no matter how beautiful the stadium is, the brand is the talent. Bennis and Biederman again "the leaders of Great Groups love talent and know where to find it. They revel, revel in the talent of others", Only, only in the stupid world, a business and government, do we promote the best accountant? Do they have the accounting department? The best salesman, do they have the sales department? The best trainer, do they have the training department? You know, do that in sports, right? The definition of most of our coaches at professional level is they were second-rate or marginal players, were brilliant students in the game and people, that is they were good, what a good leader is doing? Leading, there was a guy when I was a kid, Yale university used to win NCAA swimming championships year after year after year. And I never heard the scene has proven, but sure it doesn't surprise me. There was an interesting thing about their coach, he couldn't swim, but he can sure motivate swimmers. And that's the point, isn't it? It's the thing called leadership.

Machiavelli lived from 1469 to 1527. The philosopher Bertrand Russell referred to Machiavelli's most well-known book, *The Prince*, as a "gangsters' handbook". And while there's no doubt that certain people have read and used it as such, I think that if we put it into the context of when it was written, which was Italy, especially Florence, in the 15th and 16th centuries, it will be easier to judge Machiavelli's reasons for writing it. Now, the Italy of that period was made up of a number of city states, often at war with each other. Add to those threats from foreign powers, especially France, and it was a very unstable and dangerous situation. Machiavelli loved his home city, Florence, and wanted to protect its culture, history and above all independence at all costs. One way to do this was to establish an army of Florentines loyal to the city state of Florence. Much of Machiavelli's career was taken up with this issue. It must be remembered, though, that he led an active civic life, was deeply into politics, and was an ambassador for Florence. In this way, he got to meet and observe some of the key players of the time and through this came to understand the nature of power and how to hold on to it. The prince was an attempt to teach Florence the lessons he had learnt.

"I suppose more and more, people are starting to see graffiti as a form of art. Now there are still many who would beg to differ- and they'd point to the destructive scribblings that we see on our bus shelters and our public buildings. These often take the form of tags which are fancy, scribble-like versions of someone's name or nick-name. Tags generally have no aesthetic appeal and they are the scourge of the high street shopkeeper in many a town. I can certainly see where the shopkeepers and property owners are coming from. But the fact is, graffiti has been around for a very long time indeed. People left their mark on cave walls back in prehistoric times and it's been found too on ancient monuments in Egypt and Rome. But New York style graffiti - which is really the forerunner of a lot of the graffiti that's getting done

now - New York graffiti took off in the late 1960s. That's when the advent of the spray can allowed the humble tag to evolve into more complex styles. In the mid to late 70s, subway trains became the new forum for graffiti artists to display their skills. For many young people it became a medium to express their disillusionment with a system from which they felt excluded. Now of course, the art establishment embraces graffiti artists and some of these artists have actually taken on cult status.

For better or worse, we live in a world profoundly affected by Sigmund Freud. If I had to ask you to name a famous psychologist, the answer of most of you would be Freud. He was the most famous psychologist ever and he had a profound influence on the 20th and 21st century. Some biographical information: he was born in the 1850s. He spent most of his life in Vienna, Austria, and, but he died in London and he escaped to London soon after retreating there at the beginning of World War Two as the Nazis began to occupy where he lived. He was one of the most famous scholars ever but he was not known for any single discovery. Instead, he was known for the development of an encompassing theory of mind, one that he developed over the span of many decades. He was in his time extremely well known, a celebrity recognized on the street, and throughout his life. He was a man of extraordinary energy and productivity, in part because he was a very serious cocaine addict, but also just in general. He was just a high-energy sort of person.

The brain is basically built from the bottom up first the brain builds basic circuits that are responsible for basic skills, and then more complex circuits are built on top of those basic circuits as we develop more complex skills. Biologically, the brain is prepared to be shaped by experience. It's expecting the experiences that a young child has to literally influence the formation of its circuitry it's built into our biology. The interaction between genetics and experience that shapes brain architecture is embedded in a reciprocal relationship, the relationships that children have with the adults in their lives. And by that we mean what we refer to as the serve-and-return nature of children's interaction with their adults' development. And the impact of experience on development is not a one-way street. It's a back-and-forth interaction. The brain is a highly integrated organ which has multiple sections that specialize in different kind of processes, so we have parts of the brain that are involved more in cognitive function and other parts that are involved in processing of emotion and parts involved in seeing and hearing. So, if a child is emotionally kind of...well...put together and socially competent, that will affect more positive and productive learning. And if a child is preoccupied with fears or anxiety or is dealing with considerable stress no matter how intellectually gifted that child might be, his or her learning is going to be impaired by that kind of emotional interference.

Advertisers spent over 100 billion dollars worldwide in 2000, and consumer product advertisements accounted for a little under half of that. What did they get for it? Does advertising actually work? Does it that is persuade customers to pay a premium price for the extra intangible value which a brand confers on a product. Some businessmen say that one cannot quantify the effect of advertising because it meant to have an unquantifiable effect. Such as improving product awareness reinforcing brand loyalties or increasing total consumption of a product category. However, that hasn't stopped advertising executives from trying for many years to prove the claims that advertisements have a very quantifiable effect indeed

on sales. Advertising is, of course, only a part of the total marketing mix thinking up the product or service, naming it, deciding its price, getting it to retailers, arranging the shelf display are all important too. Advertising was very successful in American Britain during the 1950s and early 1960s. It slowed down in the early 1970s and totally collapsed in the recession of 1974, 1975 with the economic recovery from 1976 through 1979 came some improvement. But higher media prices pushed up total expenditures. By 1990, that expenditure in most places had regained its real pre-1970 for level. The 1990s were not good though. Although spending on advertising grew slowly in France, Britain and Japan. Only in Germany and America did it increase significantly in real terms and that was mainly because of the 1996 Olympics. The American elections and export drives in Japan and Germany.

This is a bomb calorimeter; this is the actual piece of equipment that researchers used to calculate the energy content of either biodiesel or maybe even the potato chips that you had for lunch today. When they calculate the amount of energy. They're going to calculate it in heat unites which would either be joules or calories. I want you to look inside the bomb calorimeter inside here, you can see that there's a silver bucket water goes all in here and this is actually the bomb is the smaller silver cylinder what you do is put your fuel sample in there then these two electrodes are connected to the bomb. These provide the spark that will ignite your sample when your sample burns or combust that gives off energy. So how is the energy collected or how did a scientist figure out how much energy is being given off. Well, it's a closed system, there's a lid here that goes on top of this calorimeter and what's in here in the lid is a stirrer. The stir is going to stir the water. That's in this big pool here so that the heat given off from the sample is going to warm the water in a uniform way. This is the temperature probe, this goes down in the water also and measures the change in temperature because as the sample is burned, it will give off heat and the temperature the water will increase. So, the lid goes on the sample is prepared. The last thing that you need to make a combustion reaction happen is oxygen and at some point, during the process, some oxygen is added by a tank. That's connected to the calorimeter here. So, we are going to burn a sample of the biodiesel that you've prepared and get some feedback on the energy content of it. You'll be able to use this to compare it to petroleum-based fuels like octane.

This is the first ocean deployment of two new high-precision instruments designed to monitor the Earth's signals from the seafloor. This housing contains the tilt meter and nano bottom pressure recorder and the associated electronics and cabling used for power and communications. The instruments were deployed on the sea floor by a remotely operated vehicle as part of the Mars seafloor. Observatory test bed located at a depth of three thousand feet in Monterey Bay in this first test deployment in the ocean. it have already detected the ground motion from several large earthquakes as far from the Mars site as Chile and the Mariana Trench in the future. The instruments will be part of a global network of cabled seafloor observatories. Because of their precision these two new instruments are already detecting signals, which could never be measured before.

It is commonly believed in United States that school is where people go to get an education. Nevertheless, it has been said that today children interrupt their education to go to school. The distinction between schooling and education implied by this remark is important. Education is much more open-ended and all-inclusive than schooling. Education knows no bounds. It can take place anywhere, whether in the shower or in the job, whether in a kitchen or on a tractor. It includes both the

formal learning that takes place in schools and the whole universe of informal learning. The agents of education can range from a revered grandparent to the people debating politics on the radio, from a child to a distinguished scientist. Whereas schooling has a certain predictability, education quite often produces surprises. A chance conversation with a stranger may lead a person to discover how little is known of other religions. People are engaged in education from infancy on. Education, then, is a very broad, inclusive term. It is a lifelong process, a process that starts long before the start of school, and one that should be an integral part of one's entire life. Schooling, on the other hand, is a specific, formalized process, whose general pattern varies little from one setting to the next. Throughout a country, children arrive at school at approximately the same time, take assigned seats, are taught by an adult, use similar textbooks, do homework, take exams, and so on. The slices of reality that are to be learned, whether they are the alphabet or an understanding of the working of government, have usually been limited by the boundaries of the subject being taught. For example, high school students know that there not likely to find out in their classes the truth about political problems in their communities or what the newest filmmakers are experimenting with. There are definite conditions surrounding the formalized process of schooling.

In the late 1960's, many people in North America turned their attention to environmental problems, and new steel-and-glass skyscrapers were widely criticized. Ecologists pointed out that a cluster of tall buildings in a city often overburdens public transportation and parking lot capacities. Skyscrapers are also lavish consumers, and wasters, of electric power. In one recent year, the addition of 17 million square feet of skyscraper¹ office space in New York City raised the peak daily demand for electricity by 120, 000 kilowatts-enough to supply the entire city of Albany, New York, for a day. Glass-walled skyscrapers can be especially wasteful. The heat loss (or gain) through a wall of half-inch plate glass is more than ten times that through a typical masonry⁶ wall filled with insulation board. To lessen⁸ the strain on heating and air-conditioning equipment, builders of skyscrapers have begun to use double-glazed panels of glass, and reflective glasses coated with silver or gold mirror films that reduce glare as well as heat gain. However, mirror-walled skyscrapers raise the temperature of the surrounding air and affect neighbouring buildings. Skyscrapers put a severe strain on a city's sanitation facilities, too. If fully occupied, the two World Trade Centre towers in New York City would alone generate 2.25 million gallons of raw sewage each year-as much as a city the size of Stamford, Connecticut, which has a population of more than 109,000.

Before the 1850's, the United States had a number of small colleges, most of them dating from colonial days. They were small, church connected institutions whose primary concern was to shape the moral character of their students. Throughout Europe, institutions of higher learning had developed, bearing the ancient name of university. In German university was concerned primarily with creating and spreading knowledge, not morals. Between mid-century and the end of the 1800's, more than nine thousand young Americans, dissatisfied with their training at home, went to Germany for advanced study. Some of them return to become presidents of venerable colleges-----Harvard, Yale, Columbia--- and transform them into modern universities. The new presidents broke all ties with the churches and brought in a new kind of faculty. Professors were hired for their knowledge of a subject, not because they were of the proper faith and had a strong arm for disciplining students. The new principle was that

a university was to create knowledge as well as pass it on, and this called for a faculty composed of teacher-scholars. Drilling and learning by rote were replaced by the German method of lecturing, in which the professor's own research was presented in class. Graduate training leading to the Ph .D., an ancient German degree signifying the highest level of advanced scholarly attainment, was introduced. With the establishment of the seminar system, graduate student learned to question, analyse, and conduct their own research. At the same time, the new university greatly expanded in size and course offerings, breaking completely out of the old, constricted curriculum of mathematics, classics, rhetoric, and music. The president of Harvard pioneered the elective system, by which students were able to choose their own course of study. The notion of major fields of study emerged. The new goal was to make the university relevant to the real pursuits of the world. Paying close heed to the practical needs of society, the new universities trained men and women to work at its tasks, with engineering students being the most characteristic of the new regime. Students were also trained as economists, architects, agriculturalists, social welfare workers, and teachers.

The preservation of embryos and juveniles is a rare occurrence in the fossil record. The tiny, delicate skeletons are usually scattered by scavengers or destroyed by weathering before they can be fossilized. Ichthyosaurs had a higher chance of being preserved than did terrestrial creatures because, as marine animals, they tended to live in environments less subject to erosion. Still, their fossilization required a suite of factors: a slow rate of decay of soft tissues, little scavenging by other animals, a lack of swift currents and waves to jumble and carry away small bones, and fairly rapid burial. Given these factors, some areas have become a treasury of well-preserved ichthyosaur fossils. The deposits at Holzman, Germany, present an interesting case for analysis. The ichthyosaur remains are found in black, bituminous marine shales deposited about 190 million years ago. Over the years, thousands of specimens of marine reptiles, fish and invertebrates have been recovered from these rocks. The quality of preservation is outstanding, but what is even more impressive is the number of ichthyosaur fossils containing preserved embryos. Ichthyosaurs with embryos have been reported from 6 different levels of the shale in a small area around Holzman, suggesting that a specific site was used by large numbers of ichthyosaurs repeatedly over time. The embryos are quite advanced in their physical development; their paddles, for example, are already well formed. One specimen is even preserved in the birth canal. In addition, the shale contains the remains of many new-borns that are between 20 and 30 inches long.

Answer Short Question

Who serves food in a restaurant? - Waiter / waitress

What is the word for a building or room where art exhibitions are held? - Art gallery / art museum

Which short TV program or a part of TV program tell whether it will be sunny or rainy tomorrow? - Weather forecast / weather report

What do you call the alphabetical list at the end of a textbook that tells you where to find specific information? - Index / Reference

Which major branch of science deals with classification of living things? – Biology

If someone lives in an urban area, where do they live? - City / town

If something is not expensive, what do we say it is? - Cheap / inexpensive

How many months are there in a year? – Twelve

Which sweet food is produced by bees? – Honey

Which item of cutlery has several prongs usually three? – fork

Something that can be eaten is edible. What is something that can be heard? - audible

What device tells us time? - Watch / clock

Which is the most common symbol of a country at international gatherings? – Flag

What is a list of historical events arranged in time order? - Chronology / timeline

What do we usually call dogs and cats who live with us? - pets / pet

Which is the last month of the year? – December

In which season would people be least likely to go snow skiing? – Summer

If you don't feel like eating, what do we say you don't have? – appetite

What is the job title of a person who paints pictures for a living? – Painter

Where would you go to watch a film? an art gallery or a cinema? – Cinema

Respond To a Situation

You were given an assignment due tomorrow but you fell ill. Call your classmate and ask for an extension.

Your roommate played your favorite song and broke the speaker. Inform the roommate how you feel and what should be done.

A friend invited you to a party on the night before an important exam. Decline politely and explain why.

You found a wallet on campus with ID and cash. Tell the security office what you will do.

Your team member missed the meeting and failed to submit work. Speak to them about completing their part.

A shop delivered the wrong order to you. Call the shop and request a replacement.

You accidentally deleted a classmate's shared file. Apologize and offer a solution.

Your professor announced extra office hours but you can't attend. Request an alternative meeting time.

The library wrongly charged you a late fee. Call to dispute the charge politely.

You want to change your course section because of a timetable clash. Explain the reason to the registrar and request transfer.

You received a job interview invitation scheduled during your class. Call to reschedule the interview.

A neighbor's loud music is disturbing your study. Ask them to reduce the volume.

You need a recommendation letter but the referee is busy. Politely ask whether they can still write one and offer details.

Your bus missed your stop and you were late. Complain to the transit customer service and ask for an explanation.

You lost your student ID card before an important exam. Request a temporary ID from administration.

Your group partner is not responding to messages. Urge them to contribute to the project.

A cafe served cold coffee. Call to request a replacement or refund.

You want to cancel a gym membership but the policy seems unclear. Call customer service to cancel.

You're running late for a conference presentation. Inform the organizer and ask to postpone your slot.

A printer in the lab is jammed and you need to print materials. Report the problem to the lab assistant.

You were billed twice for the same online purchase. Ask the vendor for a refund.

The lecture hall seat reservations were lost. Request the coordinator to confirm your seat.

You need clarification on exam content. Call the course tutor and ask a quick question.

A hotel reservation was canceled without notice. Complain to the hotel reception and request reinstatement.

Your flight was delayed and you missed a connecting flight. Call the airline and ask for rebooking.

You borrowed a friend's book and accidentally damaged it. Apologize and offer to replace it.

A coworker took credit for your idea. Confront them calmly and ask to correct the record.

You want to switch your thesis topic. Explain to your supervisor why and request approval.

Your mobile data stopped working after billing. Contact the telecom support to fix it.

A food delivery arrived cold and late. Call the restaurant and request compensation.

You're asked to give a talk but you lack slides. Call the organizer to ask if it's acceptable to speak without slides.

Your internship supervisor hasn't given tasks. Ask for guidance and tasks to start contributing.

The building's heating is broken. Report the issue to facilities management.

Your exam venue changed last minute. Contact administration to confirm the new location.

A guest left a mess in a shared flat. Speak to them and request they clean up.

You missed an assignment deadline due to family reasons. Ask the instructor for consideration.

You want to open a student club and need permission. Request the student affairs office for approval.

The online course videos are inaccessible. Report the problem to the e-learning help desk.

Your scholarship payment is delayed. Call the financial office to ask for an update.

A taxi driver took a longer route. Complain and ask for a fare adjustment.

You need accommodation for a disability during exams. Request special arrangements from the exam office.

A classmate posted inaccurate info about you on social media. Ask them to remove it and explain why.

Your bank card was declined at checkout. Call your bank to resolve the hold.

You want to cancel a hotel booking and request a refund within the cancellation window.

The campus café ran out of your favorite dish. Ask the manager when it will be restocked.

You were charged extra baggage fees wrongly. Call the airline to dispute the charge.

Your group partner won't attend the presentation day. Ask how they will hand over their part.

A lab experiment failed due to faulty equipment. Report and request replacement equipment.

You found inaccurate grades posted online. Contact the registrar to request correction.

Your apartment building is scheduled for repairs that will disrupt power. Ask the landlord about compensation.

You want to request a refund for a conference ticket you cannot use. Explain your reason to the organizer.

The Wi-Fi in your dorm is slow. Report to IT and ask for troubleshooting.

You received the wrong medication from the pharmacy. Call and request the correct prescription.

A classmate copied your homework. Confront them and ask them to admit the mistake.

You missed a payment deadline for rent. Ask the landlord for a short extension.

You want to change the date of a personal appointment with a counselor. Call to reschedule.

Your printed poster has a glaring typo. Ask the print shop for a reprint.

A vendor promised delivery but hasn't arrived. Phone them and request an update.

You need to cancel a gym class and want to know about the refund policy. Call the studio.

You witnessed an accident on campus. Call campus security and report the incident.

The coffee shop gave you a wrong order and refused to fix it. Escalate to the manager.

You're organizing an event and need extra chairs. Request inventory from facilities.

A lecturer used offensive examples. Complain to the department head respectfully.

Your passport was lost while traveling. Contact your embassy for emergency help.

A shop sold you an item missing parts. Call to request missing components.

You want to switch to online classes temporarily for health reasons. Ask the administration.

Your exam paper was misplaced after submission. Report to the exam office and ask for an investigation.

A colleague is monopolizing a meeting. Ask them politely to allow others to speak.

You received spam charges on your phone bill. Call telecom to remove them.

A nearby construction is affecting your concentration. Complain to the building manager.

You booked a guided tour but the guide didn't show. Complain and request compensation.

A café employee was rude to you. Report the incident to the store manager.

You need a refund for an online course that didn't meet advertised standards. Request a refund.

Your software license didn't activate. Contact technical support for activation help.

Your laundry was damaged at the laundromat. Ask for compensation.

You want to volunteer for a campus program but missed the sign-up. Ask the coordinator if you can still join.

A friend borrowed money and hasn't repaid. Ask them for repayment politely.

Your parking ticket appears unfair. Appeal to the parking office.

You received a defective electronic device. Call customer care for replacement.

A delivery driver left your package in an unsafe place. Report to the courier company.

You need to change the name on a reservation. Call the service provider to update details.

Your cafe loyalty points disappeared. Call customer service to restore them.

You want to postpone a dentist appointment due to illness. Call to reschedule.

A classmate took your research notes. Ask for their return.

You need to upgrade your visa and require guidance. Call the immigration helpdesk.

The event organizer forgot to include your name on the attendee list. Contact them to rectify it.

You received incomplete course materials. Request the missing documents from the course team.

A group member didn't show up for rehearsals. Ask how they'll catch up.

You're unhappy with cafeteria food quality. Provide feedback to the food services manager.

Your roommate moved out without notice and left bills unpaid. Ask them to settle dues.

A website charged you but the order wasn't processed. Ask for clarification and refund.

You need emergency childcare for an exam day. Call the student support center for help.

Your train was canceled and there are no alternative services. Ask the railway staff for options.

You want to change supervisors for your dissertation. Explain your reasons to the department.

A live webinar audio failed. Contact the host to request a recording.

You want to apply for a research grant but missed the deadline. Ask the funding body if late submissions are accepted.

The cafe misplaced your takeaway order. Ask for a replacement or refund.

You discovered plagiarism in your group's submission. Bring it to the instructor's attention.

You need an official transcript urgently. Request expedited processing from the registrar.

Your rented bike was stolen from campus. Report to campus security and ask about next steps.

You realized you submitted the wrong file for an important assignment. Explain the mistake to your professor and request a chance to re-upload.

Your internship company changed your working hours suddenly. Call your supervisor to discuss the schedule conflict.

The hotel room you booked doesn't match the photos online. Speak to the front desk and request a room change.

A classmate borrowed your laptop charger and hasn't returned it. Ask them politely to return it today.

Your new phone isn't connecting to Wi-Fi. Contact customer support to troubleshoot the issue.

You missed a mandatory workshop due to a medical appointment. Request an alternative session.

Your friend keeps cancelling study plans last minute. Explain how it affects you and request commitment.

Summarize Group Discussion

Three students are discussing whether the university should extend library hours during exam season.

Three students are discussing if the campus should introduce a bike-sharing program.

Three students are discussing whether online attendance should count the same as in-class attendance.

Three students are discussing if the university should reduce tuition fees for low-income students.

Three students are discussing whether the cafeteria should add more international food options.

Three students are discussing if the university should make physical education mandatory for all students.

Three students are discussing whether laptops should be allowed in all lecture halls.

Three students are discussing if the campus should move to a fully cashless payment system.

Three students are discussing whether final exams should be replaced with continuous assessments.

Three students are discussing if the university should allow pets in student housing.

Three students are discussing whether group projects should count for a major portion of course grades.

Three students are discussing if the campus Wi-Fi should be upgraded to a faster system.

Three students are discussing whether the university should provide free mental-health counseling sessions.

Three students are discussing if the school should introduce a mandatory internship requirement.

Three students are discussing whether lectures should be recorded and uploaded automatically.

Three students are discussing if the university should offer more night classes.

Three students are discussing whether campus parking fees should be reduced.

Three students are discussing if the university should create a 24/7 study lounge.

Three students are discussing whether part-time students should receive the same benefits as full-time students.

Three students are discussing if the school should add more renewable-energy sources on campus.

Three students are discussing whether the campus gym should be expanded.

Three students are discussing if attendance should be optional for all lectures.

Three students are discussing whether student clubs should receive more funding.

Three students are discussing if the university should provide free transportation for commuting students.

Three students are discussing whether dormitory curfew rules should be removed.

Three students are discussing if teachers should give electronic instead of printed assignments.

Three students are discussing whether the university should provide financial workshops for students.

Three students are discussing if the campus should ban single-use plastics.

Three students are discussing whether students should be allowed to choose pass/fail grading for more courses.

Three students are discussing if the school should host more career fairs each semester.

Three students are discussing whether the university should increase security patrols at night.

Three students are discussing if more scholarships should be offered to international students.

Three students are discussing whether students should receive free printing credits.

Three students are discussing if cafeteria meals should display detailed nutritional information.

Three students are discussing whether the school should reduce the number of mandatory core courses.

Three students are discussing if the university should build a new sports complex.

Three students are discussing whether students should be allowed to retake exams for better grades.

Three students are discussing if hybrid classes should become a permanent option.

Three students are discussing whether campus events should be live-streamed for remote students.

Three students are discussing if professors should hold more weekly consultation hours.

Three students are discussing whether the university should provide free language-learning courses.

Three students are discussing if the campus should introduce stricter recycling policies.

Three students are discussing whether parking should be free on weekends.

Three students are discussing if the school should build more quiet-study zones.

Three students are discussing whether the university should install more vending machines.

Three students are discussing if students should receive a discount on public transport.

Three students are discussing whether online textbooks should replace printed ones.

Three students are discussing if the university should extend deadlines during exam weeks.

Three students are discussing whether classroom participation should affect final grades.

Three students are discussing if professors should give detailed feedback on all assignments.

Three students are discussing whether the university should increase on-campus job opportunities.

Three students are discussing if more water-refill stations should be installed around campus.

Three students are discussing whether the campus should host more cultural events.

Three students are discussing if vegetarian meal options should be increased.

Three students are discussing whether international exchange programs should be expanded.

Three students are discussing if late submission penalties should be reduced.

Three students are discussing whether the university should introduce dress-code guidelines.

Three students are discussing if the school should install more digital notice boards.

Three students are discussing whether students should be allowed to bring food into lecture halls.

Three students are discussing if tutorials should be made compulsory in all subjects.

Three students are discussing whether more outdoor seating areas should be built.

Three students are discussing if the university should introduce AI-powered learning tools.

Three students are discussing whether bus services should run later at night.

Three students are discussing if the school should provide free menstrual products on campus.

Three students are discussing whether students should undergo peer assessments in group work.

Three students are discussing if the university should ban mobile phones during examinations.

Three students are discussing whether the school should provide free fitness classes.

Three students are discussing if the university should adopt fully digital student ID cards.

Three students are discussing whether more study-abroad scholarships should be offered.

Three students are discussing if dormitory fees should be lowered.

Three students are discussing whether online labs should replace some physical labs.

Three students are discussing if the university should plant more trees around campus.

Three students are discussing whether the school should reduce its class sizes.

Three students are discussing if students should vote for new campus facilities.

Three students are discussing whether the university should increase internship partnerships with companies.

Three students are discussing if the school should offer free academic tutoring sessions.

Three students are discussing whether more comfortable seating should be provided in classrooms.

Three students are discussing if the library should allow food inside.

Three students are discussing whether performance-based scholarships should be expanded.

Three students are discussing if the school should introduce campus-wide uniform Wi-Fi login.

Three students are discussing whether students should be allowed to stay in dorms during holidays.

Three students are discussing if academic advisors should meet students more frequently.

Three students are discussing whether the school should organize weekly wellness activities.

Three students are discussing if course materials should be provided for free.

Three students are discussing whether extra-credit opportunities should be offered more often.

Three students are discussing if the university should introduce a campus news app.

Three students are discussing whether graduation requirements should be simplified.

Three students are discussing if alumni networking events should be held more regularly.

Three students are discussing whether the school should provide free laundry services in dorms.

Three students are discussing if the university should allow part-time work during exam weeks.

Three students are discussing whether classrooms should have more modern technology.

Three students are discussing if the campus should build more bicycle parking areas.

Three students are discussing whether the school should provide lunchtime workshops on career skills.

Three students are discussing if access to research labs should be extended to undergraduates.

Three students are discussing whether the university should add more elective subjects.

Three students are discussing if the school should offer more blended-learning courses.

Three students are discussing whether peer-mentoring programs should be expanded.

Three students are discussing if the university should offer free professional resume reviews.

Three students are discussing whether graduation ceremonies should be live-streamed for families abroad.

Three students are discussing if weekend classes should be introduced for working students.

Writing

Summarize Written Text

The age-old question of whether human traits are determined by nature or nurture has been answered, a team of researchers say. Their conclusion? It's a draw. By collating almost every twin study across the world from the past 50 years, researchers determined that the average variation for human traits and disease is 49 percent due to genetic factors and 51 percent due to environmental factors. University of Queensland researcher Beben Benyamin from the Queensland Brain Institute collaborated with researchers at VU University of Amsterdam to collate 2,748 studies involving more than 14.5 million pairs of twins. "Twin studies have been conducted for more than 50 years but there is still some debate in terms of how much the variation is due to genetic or environmental factors," Benyamin said. He said the study showed the conversation should move away from nature versus nature, instead looking at how the two work together. "Both are important sources of variation between individuals," he said. While the studies averaged an almost even split between nature and nurture, there was wide variation within the 17,800 separate traits and diseases examined by the studies. For example, the risk for bipolar disorder was found to be 68 percent due to genetics and only 32 percent due to environmental factors. Weight maintenance was 63 percent due to genetics and 37 percent due to environmental factors. In contrast, risk for eating disorders was found to be 40 percent genetic and 60 percent environmental, whereas the risk for mental and behavioral disorders due to use of alcohol was 41 percent genetic and 59 percent environmental. Benyamin said in psychiatric, ophthalmological and skeletal traits, genetic factors were a larger influence than environmental factors. But for social values and attitudes it was the other way around.

People differ greatly in all aspects of what is casually known as intelligence. The differences are apparent not only in school, from kindergarten to college, but also in the most ordinary circumstances: in the words people use and comprehend, in their differing abilities to read a map or follow directions, or in their capacities for remembering telephone numbers or figuring change. The variations in these specific skills are so common that they are often taken for granted. Yet what makes people so different? It would be reasonable to think that the environment is the source of differences in cognitive skills — that we are what we learn. It is clear, for example, that human beings are not born with a full vocabulary; they have to learn words. Hence, learning must be the mechanism by which differences in vocabulary arise among individuals. And differences in experience — say, in the extent to which parents model and encourage vocabulary skills or in the quality of language training provided by schools — must be responsible for individual differences in learning. Earlier in this century, psychology was in fact dominated by environmental explanations for variance in cognitive abilities. More recently, however, most psychologists have begun to embrace a more balanced view: one in which nature and nurture interact in cognitive development. During the past few decades, studies in genetics have pointed to a substantial role for heredity in molding the components of intellect, and researchers have even begun to track down the genes involved in cognitive function. These findings do not refute the notion that

environmental factors shape the learning process. Instead, they suggest that differences in people's genes affect how easily they learn.

The extraordinary flying ability of dandelion seeds is possible thanks to a form of flight that has not been seen before in nature, research has revealed. The discovery, which confirms the common plant among the natural world's best fliers, shows that movement of air around and within its parachute shaped bundle of bristles enables seeds to travel great distances — often a kilometer or more, kept afloat entirely by wind power. Researchers from the University of Edinburgh carried out experiments to better understand why dandelion seeds fly so well, despite their parachute structure being largely made up of empty space. Their study revealed that a ring-shaped air bubble forms as air moves through the bristles, enhancing the drag that slows each seed's descent to the ground. This newly found form of air bubble — which the scientists have named the separated vortex ring — is physically detached from the bristles and is stabilized by air flowing through it. The amount of air flowing through, which is critical for keeping the bubble stable and directly above the seed in flight, is precisely controlled by the spacing of the bristles. This flight mechanism of the bristly parachute underpins the seeds' steady flight. It is four times more efficient than what is possible with conventional parachute design, according to the research. Researchers suggest that the dandelion's porous parachute might inspire the development of small-scale drones that require little or no power consumption. Such drones could be useful for remote sensing or air pollution monitoring.

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

to choose which signals in the world to pay attention to and which to ignore, his recent studies suggest.

Water is at the core of sustainable development. Water resources, and the range of services they provide, underpin poverty reduction, economic growth and environmental sustainability. From food and energy security to human and environmental health, water contributes to improvements in social wellbeing and inclusive growth, affecting the livelihoods of billions. In a sustainable world that is achievable in the near future, water and related resources are managed in support of human well-being and ecosystem integrity in a robust economy. Sufficient and safe water is made available to meet every person's basic needs, with healthy lifestyles and behaviors easily upheld through reliable and affordable water supply and sanitation services, in turn supported by equitably extended and efficiently managed infrastructure. Water resources management, infrastructure and service delivery are sustainably financed. Water is duly valued in all its forms, with wastewater treated as a resource that avails energy, nutrients and freshwater for reuse. Human settlements develop in harmony with the natural water cycle and the ecosystems that support it, with measures in place that reduce vulnerability and improve resilience to water-related disasters. Integrated approaches to water resources development, management and use and to human rights are the norm. Water is governed in a participatory way that draws on the full potential of women and men as professionals and citizens, guided by a number of able and knowledgeable organizations, within a just and transparent institutional framework.

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

What is known as prior knowledge or pre-existing knowledge is the knowledge, skill or ability that a learner brings to a new learning encounter. This includes all knowledge that is available before the learning event, and which has been gathered or developed by any means, and in any situation, including both formal and, quite often, informal learning situations. Learners need enough previous knowledge and understanding to enable them to learn new things; they also need help making links with new and previous explicit knowledge. It is considered to be valuable to go through a process of what has been called activating prior knowledge. Teachers often go through this process at the beginning of a new topic. They also use introductory strategies at the beginning of lessons which are continuations from previous lessons. In terms of the practicalities of teaching, this is a process of making children think about the topic or remember what has been covered already. In terms of theory, it is to do with activating particular schemas.

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

Many technologies have promised these qualities, but few have been commercially viable. What's been lacking is the performance data needed to demonstrate that these technologies are durable, genuinely environmentally beneficial, and suitable to be insured. Over the past 13 years, our Department of Architecture & Civil Engineering has led on research into straw as a low-impact building material. This work, which has included developing a unique straw bale panel as well as scientific monitoring and testing, has now culminated in crucial industry certifications. The BM TRADA's Q-Mark certification guarantees a straw building's energy efficiency, fire safety, durability and weather-resilience and means that developers and homebuyers can now get insurance and mortgages for straw homes and buildings. The innovative straw walls in the new houses provide two times more insulation than required by current UK building regulations.

Based on monitoring a residential straw-bale development in Leeds, fuel bill reductions up to 90% can be expected. The walls have been built using ModCell technology; prefabricated panels consisting of a wooden structural frame infilled with straw bales or hemp and rendered with either a breathable lime-based system or ventilated timber or brick cladding. This technology combines the lowest carbon footprint and the best operational CO₂ performance of any system of construction currently available. In fact, as an agricultural co-product, straw buildings can be carbon negative as straw absorbs CO₂ when it grows.

His product life cycle has 4 very clearly defined stages, each with its characteristics that mean different things for businesses that are trying to manage the life cycle of their particular products. Introduction Stage – This stage of the cycle could be the most expensive for a company launching a new product. The size of the market for the product is small, which means sales are low, although they will be increasing. On the other hand, the cost of things like research and development, consumer testing, and the marketing needed to launch the product can be very high, especially if it's a competitive sector. Growth Stage – The growth stage is typically characterized by strong growth in sales and profits, and because the company can start to benefit from economies of scale in production, the profit margins, as well as the overall amount of profit, will increase. This makes it possible for businesses to invest more money in promotional activity to maximize the potential of this growth stage. Maturity Stage – During the maturity stage, the product is established and the aim for the manufacturer is now to maintain the market share they have built up. This is probably the most competitive time for most products and businesses need to invest wisely in any marketing they undertake. They also need to consider any product modifications or improvements to the production process which might give them a competitive advantage. Decline Stage – Eventually, the market for a product will start to shrink, and this is what's known as the decline stage. This shrinkage could be due to the market becoming saturated (i.e. all the customers who will buy the product have already purchased it), or because the consumers are switching to a different type of product. While this decline may be inevitable, it may still be possible for companies to make some profit by switching to less-expensive production methods and cheaper markets.

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

The National Oceanography Center (NOC) is engaged in research into the potential risks and benefits of exploiting deep-sea mineral resources, some of which are essential for low-carbon technology, as well as using ocean robots to estimate the environmental impact of these potential deep-sea mining activities. Late last year the NOC led an expedition on the RRS James Cook that found enough of the scarce element Tellurium present in the crust of a submerged volcano that, if it were all to be used in the production of solar PV panels, could provide two-thirds of the UK's annual electricity supply. Recently, the NOC also led an international study demonstrating deep-sea nodule mining will cause long-lasting damage to deep-sea life, lasting at least for decades. These nodules are potato-sized rocks containing high levels of metals, including copper, manganese and nickel. They grow very slowly on the sea-bed, over millions of years. Although no commercial operations exist to extract these resources, many are planned. Professor Edward Hill, Executive Director at the NOC commented, "By 2050 there will be nine billion people on earth and attention is increasingly turning to the ocean, particularly the deep ocean, for food, clean supplies of energy and strategic minerals. The NOC is undertaking research related to many aspects and perspectives involved in exploiting ocean resources. This research is aimed at informing with sound scientific evidence the decisions that will need to be taken in the future, as people increasingly turn to the oceans to address some of society's greatest challenges.

Banks provide short-term finance to companies in the form of an overdraft on a current account. The advantage of an overdraft is its flexibility. When the cash needs of the company increase with seasonal factors, the company can continue to write cheques and watch the overdraft increase. When the goods and services are sold and cash begins to flow in, the company should be able to watch the overdraft decrease again. The most obvious example of a business which operates in this pattern is farming. The farmer uses the overdraft to finance the acquisition of seed for arable farming, or feed through the winter for stock farming and to cover the period when the crops or animals are growing and maturing. The overdraft is reduced when the crops or the animals are sold. The main disadvantage of an overdraft is that it is repayable on demand. The farmer whose crop fails because of bad weather knows the problem of being unable to repay the overdraft. Having overdraft financing increases the worries of those who manage the company. The other disadvantage is that the interest payable on overdrafts is variable. When interest rates increase, the cost of the overdraft increases. Furthermore, for small companies there are often complaints that the rate of interest charged is high compared with that available to larger companies. The banks answer that the rates charged reflect relative risk and it is their experience that small companies are more risky.

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

also used for other purposes in education, which makes the picture much more complicated. In all countries, assessments of the performance of individual students are used to determine which students are, and which students are not, qualified for subsequent phases of education, and also to decide which kinds of education students should receive.

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

Vitamin D refers to a group of fat--soluble secosteroids responsible for enhancing intestinal absorption of calcium, iron, magnesium, phosphate and zinc. In humans, the most important compounds in this group are vitamin D3 and vitamin D2. Cholecalciferol and ergocalciferol can be ingested from the diet and from supplements. Very few foods contain vitamin D; synthesis of vitamin D (specifically cholecalciferol) in the skin is the major natural source of the vitamin. Dermal synthesis of vitamin D from cholesterol is dependent on sun exposure. Vitamin D from the diet or dermal synthesis from sunlight is biologically inactive; activation requires enzymatic conversion (hydroxylation) in the liver and kidney. Evidence indicates the synthesis of vitamin D from sun exposure is regulated by a negative feedback loop that prevents toxicity, but because of uncertainty about the cancer risk from sunlight, no recommendations are issued by the Institute of Medicine (US), for the amount of sun exposure required to meet vitamin D requirements. Accordingly, the Dietary Reference Intake for vitamin D assumes no synthesis occurs and all of a person's vitamin D is from food intake, although that will rarely occur in practice. As vitamin D is synthesized in adequate amounts by most mammals exposed to sunlight[citation needed], it is not strictly a vitamin, and may be considered a hormone as its synthesis and activity occur in different locations. Vitamin D has a significant role in calcium homeostasis and metabolism. Its discovery was due to effort to find the dietary substance lacking in rickets.

It's very easy to forget about what's in the ground beneath our feet and why it's so important to protect it. One tablespoon of soil contains more organisms than there are people on Earth; billions of bacteria, fungi and other microorganisms combine with minerals, water, air and organic matter to create a living system that supports plants and, in turn, all life. Healthy soil can store as much as 3,750 tons of water per hectare, reducing the risk of flooding, and the International Panel on Climate Change (IPCC) has said that 89% of all agricultural emissions could be mitigated if we improved the health of our soil. Good soil management also increases disease resistance in livestock and ultimately drives profits for farmers - yet soil and its impact on the health of our animals has, over recent decades, been one of the most neglected links in UK agriculture. Over the last 50 years' agriculture has become increasingly dependent on chemical fertilizers, with applications today around 10 times higher than in the 1950s. Farmers often think the chemical fertilizer NPK (nitrogen, phosphorous and potassium) provides all the nutrition a plant requires, but it also has a detrimental effect on the long-term health of the land: research suggests there are fewer than 100 harvests left in many of the world's soils.

The advantages and disadvantages of solar power compared to other forms of renewable energy have been greatly debated. While obviously superior to some forms of energy, solar power's high cost and efficiency dependent on geography have limited its appeal. However, a large number of advantages also merit further development and even possible adaptation for residences.

Advantages of Solar Power Solar energy remains popular because it is both a renewable and clean source of energy. These advantages along with the hope that eventually nations can use solar power to decrease global warming ensure its popularity. Renewable Solar energy is a true renewable resource. All areas of the world have the ability to collect some amount of solar power and solar power is available for collection each day. Clean Solar energy is non-polluting. It does not create greenhouse gases, such as oil-based energy does, nor does it create waste that must be stored, such as nuclear energy. It is also far more quiet to create and harness, drastically reducing the noise pollution required to convert energy to a useful form. Residential size solar energy systems also have very little impact on the surrounding environment, in contrast with other renewable energy sources such as wind and hydroelectric power. Low Maintenance Solar panels have no moving parts and require very little maintenance beyond regular cleaning. Without moving parts to break and replace, after the initial costs of installing the panels, maintenance and repair costs are very reasonable.

Research shows that when people work with a positive mind-set, performance on nearly every level – productivity, creativity, engagement - improves. Yet happiness is perhaps the most misunderstood driver of performance. For one, most people believe that success precedes happiness. “Once I get a promotion, I'll be happy,” they think. Or, “Once I hit my sales target, I'll feel great.” But because success is a moving target – as soon as you hit your target, you raise it again, the happiness that results from success is fleeting. In fact, it works the other way around:

People who cultivate a positive mind-set perform better in the face of challenge. I call this the "happiness advantage" – every business outcome shows improvement when the brain is positive. I've observed this effect in my role as a researcher and lecturer in 48 countries on the connection between employee happiness and success. And I'm not alone: In a meta-analysis of 225 academic studies, researchers Sonja Lyubomirsky, Laura King, and Ed Diener found strong evidence of directional causality between life satisfaction and successful business outcomes. Another common misconception is that our genetics, our environment, or a combination of the two determines how happy we are. To be sure, both factors have an impact. But one's general sense of well-being is surprisingly malleable. The habits you cultivate, the way you interact with coworkers, how you think about stress – all these can be managed to increase your happiness and your chances of success.

Ethics is a set of moral obligations that define right and wrong in our practices and decisions. Many professions have a formalized system of ethical practices that help guide professionals in the field. For example, doctors commonly take the Hippocratic Oath, which, among other things, states that doctors "do no harm" to their patients. Engineers follow an ethical guide that states that they "hold paramount the safety, health, and welfare of the public." Within these professions, as well as within science, the principles become so ingrained that practitioners rarely have to think about adhering to the ethic – it's part of the way they practice. And a breach of ethics is considered very serious, punishable at least within the profession (by revocation of a license, for example) and sometimes by the law as well. Scientific ethics calls for honesty and integrity in all stages of scientific practice, from reporting results regardless to properly attributing collaborators. This system of ethics guides the practice of science, from data collection to publication and beyond. As in other professions, the scientific ethic is deeply integrated into the way scientists work, and they are aware that the reliability of their work and scientific knowledge in general depends upon adhering to that ethic. Many of the ethical principles in science relate to the production of unbiased scientific knowledge, which is critical when others try to build upon or extend research findings. The open publication of data, peer review, replication, and collaboration required by the scientific ethic all help to keep science moving forward by validating research findings and confirming or raising questions about results.

Working nine to five for a single employer bears little resemblance to the way a substantial share of the workforce makes a living today. Millions of people assemble various income streams and work independently, rather than in structured payroll jobs. This is hardly a new phenomenon, yet it has never been well measured in official statistics and the resulting data gaps prevent a clear view of a large share of labor-market activity. To better understand the independent workforce and what motivates the people who participate in it, the McKinsey Global Institute surveyed some 8,000 respondents across Europe and the United States. We asked about their income in the past 12 months-encompassing primary work, as well as any other income-generating activities, and about their professional satisfaction and aspirations for work in the future. The resulting report, *Independent work: Choice, necessity, and the gig economy*, finds that up to 162 million people in Europe and the United States-or 20 to 30 percent of the workingage population - engage in some form of independent work. While demographically diverse, independent workers largely fit into four segments (exhibit): free agents, who actively choose independent work and derive their primary income from it; casual earners, who use independent work for supplemental income

and do so by choice; reluctant, who make their primary living from independent work but would prefer traditional jobs; and the financially strapped, who do supplemental independent work out of necessity.

"A day would come", Percy Shelley predicted in 1813, "when the monopolizing eater of animal flesh would no longer destroy his constitution by eating an acre at a meal." He explained: "The quantity of nutritious vegetable matter consumed in fattening the carcass of an ox would afford 10 times the sustenance if gathered immediately from the bosom of the earth." Two hundred years later, mainstream agronomists and dietitians have caught up with the poet. A growing scientific consensus agrees that feeding cereals and beans to animals is an inefficient and extravagant way to produce human food, that there is a limited amount of grazing land, that the world will be hard-pressed to supply a predicted population of 9 billion people with a diet as rich in meat as the industrialized world currently enjoys, and that it's not a very healthy diet anyway. On top of this, livestock contribute significantly towards global warming, generating 14.5% of all manmade greenhouse gas emissions, according to one much-quoted estimate from the United Nations. Now that the problem has been identified, the challenge is to persuade people in wealthy countries to eat less meat. That might seem a tall order, but governments have successfully persuaded people to quit smoking through a combination of public information, regulation and taxation.

Ecology is the study of interactions of organisms among themselves and with their environment. It seeks to understand patterns in nature (e.g., the spatial and temporal distribution of organisms) and the processes governing those patterns. Climatology is the study of the physical state of the atmosphere – its instantaneous state or weather, its seasonal-to-interannual variability, its long-term average condition or climate, and how climate changes over time. These two fields of scientific study are distinctly different. Ecology is a discipline within the biological sciences and has as its core the principle of natural selection. Climatology is a discipline within the geophysical sciences based on applied physics and fluid dynamics. Both, however, share a common history. The origin of these sciences is attributed to Aristotle and Theophrastus and their books *Meteorological* and *Enquiry into Plants*, respectively, but their modern beginnings trace back to natural history and plant geography. Seventeenth, eighteenth, and nineteenth century naturalists and geographers saw changes in vegetation as they explored new regions and laid the foundation for the development of ecology and climatology as they sought explanations for these geographic patterns. Alexander von Humboldt, in the early 1800s, observed that widely separated regions have structurally and functionally similar vegetation if their climates are similar. Alphonse de Candolle hypothesized that latitudinal zones of tropical, temperate, and arctic vegetation are caused by temperature and in 1874 proposed formal vegetation zones with associated temperature limits.

Over the years, language teachers have alternated between favoring teaching approaches that focus primarily on language use and those that focus on language forms or analysis. The alternation has been due to a fundamental disagreement concerning whether one learns to communicate in a second language by communicating in that language (such as in an immersion

experience) or whether one learns to communicate in a second language by learning the lexicogrammar – the words and grammatical structures – of the target language. In other words, the argument has been about two different means of achieving the same end. As with any enduring controversy, the matter is not easily resolved. For one thing, there is evidence to support both points of view. It is not uncommon to find learners who, for whatever reason, find themselves in a new country or a new region of their own country, who need to learn a new language, and who do so without the benefit of formal instruction. If they are postpubescent, they may well retain an accent of some kind, but they can pick up enough language to satisfy their communicative needs. In fact, some are natural acquirers who become highly proficient in this manner. In contrast, there are learners whose entire exposure to the new language comes in the form of classroom instruction in lexicogrammar. Yet they too achieve a measure of communicative proficiency, and certain of these learners become highly proficient as well. What we can infer from this is that humans are amazingly versatile learners and that some people have a natural aptitude for acquiring languages and will succeed no matter what the circumstances.

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

Skipping Breakfast Has Drawbacks - It's no mystery why so many people routinely skip breakfast: bad timing. It comes at a time when folks can be more occupied with matters of grooming, attire and otherwise making themselves presentable for a new day. However, studies conducted both in the United States and internationally have shown that skipping breakfast can affect learning, memory and physical well-being. Students who skip breakfast are not as efficient at selecting critical information for problem-solving as their peers who have had breakfast. For school children, skipping breakfast diminishes the ability to recall and use newly acquired information, verbal fluency, and control of attention, according to Ernesto Pollitt, a UC Davis professor of pediatrics whose research focuses on the influence of breakfast on mental and physical performance. Skipping breakfast can impair thinking in adults, also. For both children and adults, a simple bowl of cereal with milk goes a long way toward providing a sufficiently

nutritious start to the day. Green-Burgeson recommends choosing a cereal that's low in sugar — less than five grams per serving — and using nonfat or one percent milk. Frederick Hirshburg, a pediatrician at UC Davis Medical Group, Carmichael, says that babies and other preschoolers rarely skip breakfast because they're usually the hungriest at the beginning of the day. Breakfast then becomes more of a "learned experience" than a response to a biological need, Hirshburg says.

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

Tim Berners-Lee believes the internet can foster human understanding and even world peace. He is the man who has changed the world more than anyone else in the past hundred years. Sir Tim Berners-Lee may be a mild-mannered academic who lives modestly in Boston, but as the inventor of the world wide web he is also a revolutionary. Along with Galileo, William Caxton and Sir Isaac Newton, he is a scientist who has altered the way people think as well as the way they live. Since the web went global 20 years ago, the way we shop, listen to music and communicate has been transformed. There are implications for politics, literature, economics even terrorism because an individual can now have the same access to information as the elite. Society will never be the same. The computer scientist from Oxford, who built his own computer from a television screen and spare parts after he was banned from one of the university computers, is a cultural guru as much as a technological one. It is amazing how far we've come, he says. But you're always wondering what's the next crazy idea, and working to make sure the web stays one web and that the internet stays open. There isn't much time to sit back and reflect. We speak for more than an hour about everything from Facebook to fatwas, Wikipedia to Google. He invented the web, he says, because he was frustrated that he couldn't find all the information he wanted in one place. It was an imaginary concept that he realized.

In order to have a competitive edge, athletes often use drugs with high athletic performance. The National Honey Board recently found that honey has the same functions but less negative impact. This clinical trial is the third in a series of studies focusing on the use of honey by athletes. The first study (involving 71 subjects) determined that honey has a milder effect on blood sugar than other popular forms of carbohydrate gel. The second study in the series (with 39 weight trained subjects) investigated the combination of honey with a protein supplement and suggested that honey speeds muscle recovery after a workout.

Asda has become the first food retailer in the country to measure how much customers can save by cutting back on food waste, thanks to a Knowledge Transfer Partnership (KTP) with the

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

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

According to Dr. Ron Fessenden, M.D., M.P.H. the average American consumes more than 150 pounds of refined sugar, plus an additional 62 pounds of high fructose corn syrup every year. In comparison, we consume only around 1.3 pounds of honey per year on average in the U.S. According to new research, if you can switch out your intake of refined sugar and use pure raw honey instead, the health benefits can be enormous. What is raw honey? Its a pure, unfiltered and unpasteurized sweetener made by bees from the nectar of flowers. Most of the honey consumed

today is processed honey that's been heated and filtered since it was gathered from the hive. Unlike processed honey, raw honey does not get robbed of its incredible nutritional value and health powers. It can help with everything from low energy to sleep problems to seasonal allergies. Switching to raw honey may even help weight-loss efforts when compared to diets containing sugar or high fructose corn syrup. I'm excited to tell you more about one of my all-time favorite natural sweeteners today.

The world engages in improving literacy of reading and writing, but it is not that important now. What are text/written language anyway? It's an ancient IT for storing and retrieving information. We store information by writing it, and we retrieve it by reading it. Six thousand to 10,000 years ago, many of our ancestors' hunter -- gatherer societies settled on the land and began what's known as the agricultural revolution. That new land settlement led to private property and increased production and trade of goods, generating a huge new influx of information. Unable to keep all this information in their memories, our ancestors created systems of written records that evolved over millennia into today's written language. But this ancient IT is already becoming obsolete. Text has run its historic course and is now rapidly getting replaced in every area of our lives by the ever – increasing array of emerging ITs driven by voice, video, and body movement rather than the written word. In my view, this is a positive step forward in the evolution of human technology, and it carries great potential for a total positive redesign of education.

Orville and Wilbur Wright were brothers living in Dayton, Ohio. The two had started making bicycles during the 1890s and had a successful small business selling their Wright Specials for \$18 each (\$475 in today's green). This experience with building light, strong machines would prove valuable in the coming years after the brothers' interest turned to flight. Others in the United States were also developing aircraft at the time the Wright brothers started turning their curiosity skyward. Samuel Langley had flown an unmanned steam-powered aircraft in 1896. Octave Chanute and others were flying gliders near Chicago late in the decade as well. But it wasn't until the Wright brothers started working on the matter that the “flying problem” would finally be solved.

Beginning in 1899, the brothers designed and built a series of gliders to test their various ideas on a flying machine. They constructed a wind tunnel that allowed them to test designs without having to build a full-size model. They even built their own gasoline-powered motor for their aircraft. But it was the idea of controlled flight that the Wright brothers recognized as the biggest challenge. The Wright brothers realized the problem wasn't getting into the air, it was what to do once the pilot was airborne. One of the key features of the Wright brothers' design is something they learned from watching birds.

In 1920, the eighteenth Amendment to the United States Constitution created yet another setback for the American wine industry. The National Prohibition Act, also known as the Volstead Act, prohibited the manufacture, sale, transportation, importation, delivery, or possession of intoxicating liquors for beverage purposes. Prohibition, which continued for thirteen years, nearly destroyed what had become a thriving and national industry. One of the loopholes in the Volstead Act allowed for the manufacture and sale of sacramental wine, medicinal wines for sale by pharmacists with a doctor's prescription, and medicinal wine tonics (fortified wines) sold without

prescription. Perhaps more important, prohibition allowed anyone to produce up to two hundred gallons yearly of fruit juice or cider. The fruit juice, which was sometimes made into concentrate, was ideal for making wine. People would buy grape concentrate from California and have it shipped to the East Coast. The top of the container was stamped in big bold letters: caution: do not add sugar or yeast or else fermentation will take place! Some of this yield found its way to bootleggers throughout America who did just that. But not for long, because the government stepped in and banned the sale of grape juice, preventing illegal wine production. Vineyards stopped being planted, and the American wine industry came to a halt.

Compulsory voting is often suggested as a solution to the problem of declining turnout. But how are individuals and countries affected by compulsory voting beyond boosting electoral participation? Shane Singh investigates the social, economic, and political consequences of compelling citizens to vote. There has been a lot of discussion about compulsory voting these days. In the United Kingdom, in particular, as voter turnout rates have declined, many commentators and politicians have begun advocating for mandatory electoral participation. Those in favor of compulsory voting often adduce the importance of participation among all segments of society. Citizens of democracies are forced to do many things in the interest of the public good, they maintain, including serving on juries and educating their children, and full participation serves the country as a whole. Those opposed to compulsory voting often argue that, from a democratic theory perspective, the right to vote implicitly includes a right not to vote. Such a right of abstention, they argue, is more important than any societal good that might accompany high turnout. In fact, opponents of compulsory voting often contend that the country may be better off if those who are disinclined to vote are not pushed to participate in public affairs. Regardless of whether one of these sets of arguments is more persuasive than the other, compulsory voting is commonly used around the world. Several European democracies mandate voting, as do Australia and most of the countries in Latin America. By evaluating results from these countries, it is possible to assess the mechanics and effects of compulsory voting.

As far as prediction is concerned, remember that the chairman of IBM predicted in the fifties that the world would need a maximum of around half a dozen computers, that the British Department for Education seemed to think in the eighties that we would all need to be able to code in BASIC and that in the nineties Microsoft failed to foresee the rapid growth of the Internet. Who could have predicted that one major effect of the automobile would be to bankrupt small shops across the nation? Could the early developers of the telephone have foreseen its development as a

medium for person to person communication, rather than as a form of broadcasting medium? We all, including the 'experts', seem to be peculiarly inept at predicting the likely development of our technologies, even as far as the next year. We can, of course, try to extrapolate from experience of previous technologies, as I do below by comparing the technology of the Internet with the development of other information and communication technologies and by examining the earlier development of radio and print. But how justified I might be in doing so remains an open question. You might conceivably find the history of the British and French videotext systems, Prestel and Minitel, instructive. However, I am not entirely convinced that they are very relevant, nor do I know where you can find information about them online, so, rather than take up space here, I've briefly described them in a separate article.

Slightly less than one in five carers (19%) were primary carers (475,000 people). That is, they were the main carer of a person who was limited in carrying out the core everyday activities of mobility, communication or self-care. Both primary carers and the larger group of other carers (close to 2 million) contribute to the wellbeing of older people and people with disabilities. However, because they care for people who otherwise would have difficulty carrying out basic everyday activities, there is particular interest in primary carers: in the contribution they make, their wellbeing, labour force experiences, motivations and the support they receive in caring. Primary carers were more likely than other carers to be assisting someone who lived in the same household (81% compared with 76%). As with caring as a whole, the likelihood of being a primary carer increased with age to peak at age 55-64 years, where one in twenty people were primary carers. However, rather than then declining, the likelihood of being a primary carer remained at around this level among the older age groups. Consequently, primary carers had a somewhat older age profile than other carers. The median age of primary carers was 52 years, compared with 47 years for other carers. Primary carers were more likely than other carers to be female (71% compared with 50%) and less likely to be in the labour force (39% compared with 60%). Women not in the labour force were by far the largest single group among primary carers (44%). In contrast, men employed full-time were the largest single group among other carers (25%).

Here's a term you're going to hear much more often: plug-in vehicle, and the acronym PEV. It's what you and many other people will drive to work in ten years and more from now. At that time, before you drive off in the morning you will first unplug your car - your plugin vehicle. Its big on board batteries will have been fully charged overnight, with enough power for you to drive 50-100 kilometers through city traffic. When you arrive at work you'll plug in your car once again, this time into a socket that allows power to flow from your car's batteries to the electricity grid. One of the things you did when you bought your car was to sign a contract with your favorite electricity supplier, allowing them to draw a limited amount of power from your car's batteries should they need to, perhaps because of a blackout, or very high wholesale spot power prices. The price you get for the power the distributor buys from your car would not only be most attractive to you, it would be a good deal for them too, their alternative being very expensive power from peaking stations. If, driving home or for some other reason your batteries looked like running flat, a relatively small, but quiet and efficient engine running on petrol, diesel or compressed natural gas, even bio-fuel, would automatically cut in, driving a generator that supplied the batteries so you could complete your journey. Concerns over 'peak oil', increasing

greenhouse gas emissions, and the likelihood that by the middle of this century there could be five times as many motor vehicles registered worldwide as there are now, mean that the world's almost total dependence on petroleum-based fuels for transport is, in every sense of the word, unsustainable.

Plants serve as the conduit of energy into the biosphere, provide food and materials used by humans, and they shape our environment. According to Ehrhardt and Frommer, the three major challenges facing humanity in our time are food, energy, and environmental degradation. All three are plant related. All of our food is produced by plants, either directly or indirectly via animals that eat them. Plants are a source of energy production. And they are intimately involved in climate change and a major factor in a variety of environmental concerns, including agricultural expansion and its impact on habitat destruction and waterway pollution. What's more, none of these issues are independent of each other. Climate change places additional stresses on the food supply and on various habitats. So, plant research is instrumental in addressing all of these problems and moving into the future. For plant research to move significantly forward, Ehrhardt and Former say technological development is critical, both to test existing hypotheses and to gain new information and generate fresh hypotheses. If we are to make headway in understanding how these essential organisms function and build the foundation for a sustainable future, then we need to apply the most advanced technologies available to the study of plant life, they say.

What makes teaching online unique is that it uses the internet, especially the World Wide Web, as the primary means of communication. Thus, when you teach online, you don't have to be someplace to teach. You don't have to lug your briefcase full of paper or your laptop to a classroom, stand at a lectern, scribble on a chalkboard (or even use your high-tech, interactive classroom "smart" whiteboard), or grade papers in a stuffy room while your students take a test. You don't even have to sit in your office waiting for students to show up for conferences. You can hold "office hours" on weekends or at night after dinner. You can do all this while living in a small town in Wyoming or a big city like Bangkok, even if you are working for a college whose administrative office is located in Florida or Dubai. You can attend an important conference in Hawaii on the same day you teach your class in New Jersey, logging on from your laptop via the local café's wireless hotspot or your hotel room's high-speed network. Or you may simply pull out your smartphone to quickly check on the latest postings, email, or text messages from students. Online learning offers more freedom for students as well. They can search for courses using the Web, scouring their institution or even the world for programs, classes, and instructors that fit their needs. Having found an appropriate course, they can enroll and register, shop for their books, read articles, listen to lectures, submit their homework assignments, confer with their instructors, and receive their final grades-all online.

The notion that office space has a role in promoting or inhibiting performance is backed up by solid research. A recent study conducted by Harvard University and Massachusetts General Hospital showed that improvements to the physical surroundings of workers impacted on productivity not just because the working environment was more attractive, but because the changes made employees feel cared for. A Swedish research paper revealed a strong link between the type of office an employee worked in and their overall job satisfaction and health. Various

findings have emerged as a result of studies such as this. Pot plants and greenery can apparently have a real impact on psychological well-being. Those who work in a private room tend to be in better health than workers based in open-plan offices. Sufficient light can reduce sickness among workers and increase productivity, and an attractive office can make workers feel more cared for and therefore more loyal to their company. Most of these points make good rational sense. But some companies aren't content simply to increase the health, productivity and contentment of their employees. Pioneers such as Google, Walt Disney and Dyson have tried to create offices that will do everything from promoting collaboration between workers to stimulating their creative juices. "Environment, both physical and cultural, can make or break creativity," says Kursty Groves, author of *I Wish I Worked There! A look inside the most creative spaces in business*. Stimulating spaces expose the mind to a variety of stimuli - planned or random - In order to encourage people to think differently. Reflective spaces promote the filtering of information into the brain slowing it to make connections. An environment which encourages a team to build trust and to play freely is an essential ingredient for innovation.

What is museology? A simple definition might be that it is the study of museums, their history and underlying philosophy, the various ways in which they have, in the course of time, been established and developed, their avowed or unspoken aims and policies, their educative or political or social role. More broadly conceived, such a study might also embrace the bewildering variety of audiences — visitors, scholars, art lovers, children -at whom the efforts of museum staff are supposedly directed, as well as related topics such as the legal duties and responsibilities placed upon (or incurred by) museums, perhaps even some thought as to their future. Seen in this light, museology might appear at first sight a subject so specialized as to concern only museum professionals, who by virtue of their occupation are more or less obliged to take an interest in it. In reality, since museums are almost, if not quite as old as civilization itself, and since the plethora of present-day museums embraces virtually every field of human endeavor - not just art, or craft, or science, but entertainment, agriculture, rural life, childhood, fisheries, antiquities, automobiles: the list is endless - it is a field of enquiry so broad as to be a matter of concern to almost everybody.

Half a lifetime ago I made a lifestyle choice to exchange a city terrace for a farm cottage. I knew it was a good idea because I had been there before. Born and reared on a farm I had been seduced for a few years by the idea of being a big shot that lived and worked in a city rather than only going for the day to wave at the buses. True, I was familiar with some of the minor disadvantages of country living such as an iffy private water supply sometimes infiltrated by a range of flora and fauna (including, on one memorable occasion, a dead lamb), the absence of central heating in farm houses and cottages, and a single track farm road easily blocked by snow, broken down machinery or escaped livestock. But there were many advantages as I told my wife back in the mid Seventies. Town born and bred, eight months pregnant and exchanging a warm, substantial Corstorphine terrace for a windswept farm cottage on a much lower income, persuading her that country had it over town might have been difficult.

Malaysia is one of the most pleasant, hassle-free countries to visit in Southeast Asia. Aside from its gleaming 21st century glass towers, it boasts some of the most superb beaches, mountains and

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

Human remains are a fundamental part of the archaeological record, offering unique insights into the lives of individuals and populations in the past. Like many archaeological materials, human remains require distinctive and specialized methods of recovery, analysis, and interpretation, while technological innovations and the accumulation of expertise have enabled archaeologists to extract ever greater amounts of information from assemblages of skeletal material. Alongside analyses of new finds, these advances have consistently thrown new light on existing collections of human remains in museums, universities and other institutions. Given the powerful emotional, social and religious meanings attached to the dead body, it is perhaps unsurprising that human remains pose a distinctive set of ethical questions for archaeologists. With the rise of indigenous rights movements and the emergence of post-colonial nations, the acquisition and ownership of human remains became a divisive and politically loaded issue. It became increasingly clear that many human remains in museum collections around the world represented the traces of colonial exploitation and discredited pseudo-scientific theories of race. In the light of these debates and changing attitudes, some human remains were returned or repatriated to their communities of origin, a process which continues to this day. Recently a new set of challenges to the study of human remains has emerged from a rather unexpected direction: the British government revised its interpretation of nineteenth-century burial legislation in a way that would drastically curtail the ability of archaeologists to study human remains of any age excavated in England and Wales. This paper examines these extraordinary events and the legal, political and ethical questions that they raise.

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

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

When an individual drives a car, heats a house, or uses an aerosol hair spray, greenhouse gases are produced. In economic terms, this creates a classic negative externality. Most of the cost (in this case, those arising from global warming) are borne by individuals other than the one making the decision about how many miles to drive or how much hair spray to use. Because the driver (or sprayer) enjoys all the benefits of the activities but suffers only part of the cost, that individual engages in more than the economically efficient amount of the activity. In this sense, the problem

of greenhouse gases parallels the problem that occurs when someone smokes a cigarette in an enclosed space or litters the countryside with fast-food wrappers. If we are to get individuals to reduce production of greenhouse gases to the efficient rate, we must somehow induce them to act as though they bear all the costs of their actions. The two most widely accepted means of doing this are government regulation and taxation, both of which have been proposed to deal with greenhouse gases.

What is the solution for nations with increasing energy demands, hindered by frequent power cuts and an inability to compete in the international oil market? For East Africa at least, experts think geothermal energy is the answer. More promising still, the Kenyan government and international investors seem to be listening. This is just in time according to many, as claims of an acute energy crisis are afoot due to high oil prices, population spikes and droughts. Geothermal energy works by pumping water into bedrock, where it is heated and returns to the surface as steam which is used directly as a heat source or to drive electricity production. Source: Energy Information Administration, *Geothermal Energy in the Western United States and Hawaii*. Currently over 60% of Kenya's power comes from hydroelectric sources but these are proving increasingly unreliable as the issue of seasonal variation is intensified by erratic rain patterns. Alternative energy sources are needed; and the leading energy supplier in Kenya, Kenya Electricity Generating Company (KenGen), hopes to expand its geothermal energy supply from 13% to 25 % of its total usage by 2020. The potential of geothermal energy in the region was first realised internationally by the United Nations Development Program, when geologists observed thermal anomalies below the East African Rift system. Locals have been utilising this resource for centuries; using steam vents to create the perfect humidity for greenhouses, or simply to enjoy a swim in the many natural hot lakes. Along the 6000 km of the rift from the Red Sea to Mozambique, geochemical, geophysical and heat flow measurements were made to identify areas suitable for geothermal wells. One area lies next to the extinct Olkaria volcano, within the Hell's Gate National Park, and sits over some of the thinnest continental crust on Earth. This is a result of the thinning of the crust by tectonic stretching, causing hotter material below the Earth's surface to rise, resulting in higher temperatures. This thin crust was ideal for the drilling of geothermal wells, reaching depths of around 3000 m, where temperatures get up to 342°C, far higher than the usual temperature of 90°C at this depth. Water in the surrounding rocks is converted to steam by the heat. The steam can be used to drive turbines and produce electricity.

A miner in the state of Chiapas found a tiny tree frog that has been preserved in amber for 25 million years, a researcher said. If authenticated, the preserved frog would be the first of its kind found in Mexico, according to David Grimaldi, a biologist and curator at the American Museum of Natural History, who was not involved in the find. The chunk of amber containing the frog, less than half an inch long, was uncovered by a miner in Mexico's southern Chiapas state in 2005 and was bought by a private collector, who loaned it to scientists for study. A few other preserved frogs have been found in chunks of amber — a stone formed by ancient tree sap — mostly in the Dominican Republic. Like those, the frog found in Chiapas appears to be of the genus *Craugastor*, whose descendants still inhabit the region, said biologist Gerardo Carbot of the Chiapas Natural History and Ecology Institute. Carbot announced the discovery this week. The scientist said the frog lived about 25 million years ago, based on the geological strata where the amber was found.

Carbot would like to extract a sample from the frog's remains in hopes of finding DNA that could identify the particular species but doubts the owner would let him drill into the stone.

The feature of being “double blind”, where neither patients nor physicians are aware of who receives the experimental treatment, is almost universally trumpeted as being a virtue of clinical trials. Hence, trials that fail to remain successfully double blind are regarded as providing inferior evidential support. The rationale for this view is unobjectionable: double blinding rules out the potential confounding influences of patient and physician beliefs. Nonetheless, viewing double blind trial as necessarily superior is problematic. For one, it leads to the paradox that very effective experimental treatments will not be supportable by best evidence. If a new drug were to make even the most severe symptoms of the common cold disappear within seconds, most participants and investigators would correctly identify it as the latest wonder drug and not the control (i.e. placebo) treatment. Any trial testing the effectiveness of this wonder drug will therefore fail to remain double blind. Similar problems arise for treatments, such as exercise and most surgical techniques, whose nature makes them resistant to being tested in double blind conditions. It seems strange that an account of evidence should make priori judgments that certain claims can never be supported by ‘best evidence’. It would be different if the claims at issue were pseudoscientific – untestable. But so far as treatments with large effects go, the claim that they are effective is highly testable and intuitively they should receive greater support from the evidence than do claims about treatments with moderate effects.

Consider the current situation: like their counterparts in the United States, engineers and technicians in India have the capacity to provide both computer programming and innovative new technologies. Indian programmers and high-tech engineers earn one-quarter of what their counterparts earn in the United States; Consequently, India is able to do both jobs at a lower dollar cost than the United States: India has absolute advantage in both. In other words, it can produce a unit of programming for fewer dollars than the United States, and it can also produce a unit of technology innovation for fewer dollars. Does that mean that the United States will lose not only programming jobs but innovative technology job, too? Does that mean that our standard of living will fall if the United States and India engage in the international trade? David Ricardo would have answered no to both questions - as we do today. While India may have an absolute advantage in both activities, that fact is irrelevant in determining what India or the United States will produce. India has a comparative advantage in doing programming in part because of such activity requires little physical capital. The flip side is that the United States has a comparative advantage in technology innovation partly because it is relatively easy to obtain capital in this country to undertake such long-run projects. The result is that Indian programmers will do more and more of what U.S. programmers have been doing in the past. In contrast, American firms will shift to more and more innovation.

When Christopher Columbus arrived at Hispaniola during his first transatlantic voyage in the year A.D. 1492, the island had already been settled by Native Americans for about 5,000 years. The occupants in Columbus's time were a group of Arawak Indians called Tainos who lived by farming, were organized into five chiefdoms, and numbered around half a million (the estimates range from 100,000 to 2,000,000). Columbus initially found them peaceful and friendly, until he

and his Spaniards began mistreating them. Unfortunately for the Tainos, they had gold, which the Spanish coveted but didn't want to go to the work of mining themselves. Hence the conquerors divided up the island and its Indian population among individual Spaniards, who put the Indians to work as virtual slaves, accidentally infected them with Eurasian diseases, and murdered them. By the year 1519, 27 years after Columbus's arrival, that original population of half a million had been reduced to about 11,000, most of whom died that year of smallpox to bring the population down to 3,000.

Many people who have written on the subject of allowances say it is not a good idea to pay your child for work around the home. These jobs are a normal part of family life. Paying children to do extra work around the house, however, can be useful. It can even provide an understanding of how a business works. Allowances give children a chance to experience the things they can do with money. They can share it in the form of gifts or giving to a good cause. They can spend it by buying things they want. Or they can save and maybe even invest it. Saving helps children understand that costly goals require sacrifice: you have to cut costs and plan for the future. Requiring children to save part of their allowance can also open the door to future saving and investing. Many banks offer services to help children and teenagers learn about personal finance. A savings account is an excellent way to learn about the power of compound interest. Compounding works by paying interest on interest. So, for example, one dollar invested at two percent interest for two years will earn two cents in the first year. The second year, the money will earn two percent of one dollar and two cents, and so on. That may not seem like a lot. But over time it adds up.

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

11 February 2009 – Major athletic events around the globe – from the 2014 Sochi Olympics to an annual powerboat race in Norwegian fjords – are striving to neutralize their carbon footprint as part of a world-wide climate network, the United Nations Environment Programme (UNEP) said today. The sporting events are the latest participants to join the network, and are particularly important for inspiring further global action on the environment, said Achim Steiner, UNEP Executive Director. “Whether carried out on track and field or on ice and snow, sporting events ignite the spirit of achievement in thousands of competitors and billions of spectators worldwide,” Mr. Steiner said. “It is, therefore, heartening that this passion for excellence increasingly encompasses environmental performance, with sporting organizations raising the bar ever higher at each and every tournament,” he added. Organizers of the 2014 Sochi Olympic and Paralympic Winter Games – to be held in a unique natural setting between the shores of the Black Sea and the soaring snow-capped Caucasus Mountains – say they will put an estimated \$1.75 billion into energy conservation and renewable energy. That investment will be dedicated to improving transport infrastructure, offsetting greenhouse gas emissions from the use of electricity, air travel and ground transportation, the reforestation of Sochi National Park and the development of green belts in the city.

In 2005 Japan had the highest median age of all countries in the world, while Australia's population was only moderately aged. Some 50 years ago the demographic situation was quite different, with the median age of Australia's population being seven years older than Japan's. The ageing of the population is a major issue for Australian policy makers, particularly in regard to the long-term implications for reduced economic growth and the increasing demand for Age Pensions, and health and aged care services. As the population ages, growth in the number of people of working age will slow, while the proportion of people of retirement age will increase. Sustained population ageing also leads to slowing or negative population growth. While declining population growth in developed countries is welcomed by some environmentalists and social scientists, economists tend to agree that population decline brings gloomy economic prospects. In addition to the decrease in the labor supply, the demand side of the economy may be affected through shrinking markets for goods and services. How quickly this occurs depends on the dynamics of fertility, mortality and overseas migration. While a moderate pace of demographic change allows for gradual adjustment of the economy and policies to the changing population demographics, rapid changes are more difficult to manage. As a result, governments and society as a whole may need to take actions to address these issues. But how severe is the ageing of Australia's population, relative to other countries? One way of applying a degree of perspective to the ageing debate is to compare ageing in Australia with that of other countries. This article examines the population structures in Australia and Japan and the demographic forces that shape the respective populations, both historically and projections for the future.

The ways of life Upper Paleolithic people are known through the remains of meals scattered around their hearths, together with many tools and weapons and the debris left over from their making. The people were hunter-gathers who lived exclusively from what they could find in nature without practicing either agriculture or herding. They hunted the bigger herbivores, while berries, leaves, roots, wild fruit and mushrooms probably played a major role in their diet. Their hunting was indiscriminate; perhaps because so many animals were about they did not need to spare pregnant females or the young. In the cave of Enlène, for example, many bones of reindeer and bison fetuses were found. Apparently, upper Paleolithic people hunted like other predators and killed the weakest prey first. They did, however, sometimes concentrate on salmon runs and migrating herds of reindeer. Contrary to popular beliefs about cave man, upper Paleolithic people did not live deep inside caves. They rather chose the foot of cliffs, especially when an overhang provided good shelter. On the plains and in the valleys, they used tents made from hides of the animals they killed. At times, on the great Russian plains, they built huts with huge bones and tusks collected from skeletons of mammals. Men hunted mostly with spears, the bow and arrow were probably not invented until the Magdalenian period that came at the end of the Upper Paleolithic.

A marketing objective is a marketing target or goal that an organization hopes to achieve such as to boost market share from 9 to 12 per cent within 2 years. Marketing objectives steer the direction of the business. Operating a business without knowing your objectives is like driving a car without knowing where you want to go. Some businesses achieve a degree of success without setting marketing objectives; stumbling across a successful business model by accident. But why should anyone rely on chance? If firms set marketing objectives the probability of success increases because decision making will be more focused. Marketing objectives must be compatible with the overall objectives of the company, they cannot be set in isolation by the marketing department. Achieving the marketing objective of boosting share from 9 to 12 per cent will help realize a corporate objective of growth. To be effective, marketing objectives should be quantifiable and measurable. Targets should also be set within a time frame. An example of a marketing objective that Nestlé might set is To achieve a 9 per cent increase in the sales of KitKat by the end of next year A car manufacturer, such as BMW could set the following marketing objective: 'To increase the number of BMW 3 Series cars sold in China from 250,000 to 400,000 over the next 12 months'. Setting sales volume targets can be particularly important in industries such as car manufacturing because of the high fixed costs associated with operating in this market. If sales volume can be increased, the high fixed costs of operating will be spread across a greater number of units of output, reducing fixed costs per unit.

When people start thinking about language, the first question which often occurs to them is this: is language natural to humans? - in the same way that grunting is natural to pigs, and barking comes naturally to dogs. Or is it just something we happen to have learned? - in the same way that dogs may learn to beg, or elephants may learn to waltz, or humans may learn to play the guitar. Clearly, in one sense, children 'learn' whatever language they are exposed to, be it Chinese, Nootka or English. So no one would deny that 'learning' is very important. But the crucial question is whether children are born with 'blank sheets' in their head as far as language is concerned - or whether humans are 'programmed' with an outline knowledge of the structure of languages in general. This question of whether language is partly due to nature or wholly due to

learning or nurture is often referred to as the nature-nurture controversy, and has been discussed for centuries. For example, it was the topic of one of Plato's dialogues, the *Cratylus*.

Controversies which have been going on for literally ages tend to behave in a characteristic fashion. They lie dormant for a while, then break out fiercely. This particular issue resurfaced in linguistics in 1959 when the linguist Noam Chomsky wrote a devastating and witty review of *Verbal Behavior*, a book by the Harvard psychologist B.F. Skinner (Skinner 1957; Chomsky 1959). This book claimed to 'explain' language as a set of habits gradually built up over the years. According to Skinner, no complicated innate or mental mechanisms are needed. All that is necessary is the systematic observation of the events in the external world which prompt the speaker to utter sounds.

In addition to this lack of information about protein families, there is a lack of information about those from the species of most interest to researchers: *Homo sapiens*. Only a quarter of known protein structures are human. A majority of the rest come from bacteria. This paucity is a problem, for in proteins form and function are intimately related. A protein is a chain of smaller molecules, called amino acids, that is often hundreds or thousands of links long. By a process not well understood, this chain folds up, after it has been made, into a specific and complex three-dimensional shape. That shape determines what the protein does: acting as a channel, say, to admit a chemical into a cell; or as an enzyme to accelerate a chemical reaction; or as a receptor, to receive chemical signals and pass them on to a cell's molecular machinery.

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

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

It's very easy to forget about what's in the ground beneath our feet and why it's so important to protect it. One tablespoon of soil contains more organisms than there are people on Earth; billions of bacteria, fungi and other microorganisms combine with minerals, water, air and organic matter to create a living system that supports plants and, in turn, all life. Healthy soil can store as much as 3,750 tons of water per hectare, reducing the risk of flooding, and the International Panel on Climate Change (IPCC) has said that 89% of all agricultural emissions could be mitigated if we improved the health of our soil. Good soil management also increases disease resistance in livestock and ultimately drives profits for farmers - yet soil and its impact on the health of our animals has, over recent decades, been one of the most neglected links in UK agriculture. Over the last 50 years' agriculture has become increasingly dependent on chemical fertilizers, with applications today around 10 times higher than in the 1950s. Farmers often think the chemical fertilizer NPK (nitrogen, phosphorous and potassium) provides all the nutrition a plant requires, but it also has a detrimental effect on the longterm health of the land: research suggests there are fewer than 100 harvests left in many of the world's soils.

The advantages and disadvantages of solar power compared to other forms of renewable energy have been greatly debated. While obviously superior to some forms of energy, solar power's high cost and efficiency dependent on geography have limited its appeal. However, a large number of advantages also merit further development and even possible adaptation for residences.

Advantages of Solar Power Solar energy remains popular because it is both a renewable and clean source of energy. These advantages along with the hope that eventually nations can use solar power to decrease global warming ensure its popularity. Renewable Solar energy is a true renewable resource. All areas of the world have the ability to collect some amount of solar power and solar power is available for collection each day. Clean Solar energy is non-polluting. It does not create greenhouse gases, such as oilbased energy does, nor does it create waste that must be stored, such as nuclear energy. It is also far more quiet to create and harness, drastically reducing the noise pollution required to convert energy to a useful form. Residential size solar energy systems also have very little impact on the surrounding environment, in contrast with other renewable energy sources such as wind and hydroelectric power. Low Maintenance Solar panels

have no moving parts and require very little maintenance beyond regular cleaning. Without moving parts to break and replace, after the initial costs of installing the panels, maintenance and repair costs are very reasonable.

Research shows that when people work with a positive mind-set, performance on nearly every level – productivity, creativity, engagement - improves. Yet happiness is perhaps the most misunderstood driver of performance. For one, most people believe that success precedes happiness. “Once I get a promotion, I’ll be happy,” they think. Or, “Once I hit my sales target, I’ll feel great.” But because success is a moving target – as soon as you hit your target, you raise it again, the happiness that results from success is fleeting. In fact, it works the other way around: People who cultivate a positive mind-set perform better in the face of challenge. I call this the “happiness advantage” – every business outcome shows improvement when the brain is positive. I’ve observed this effect in my role as a researcher and lecturer in 48 countries on the connection between employee happiness and success. And I’m not alone: In a meta-analysis of 225 academic studies, researchers Sonja Lyubomirsky, Laura King, and Ed Diener found strong evidence of directional causality between life satisfaction and successful business outcomes. Another common misconception is that our genetics, our environment, or a combination of the two determines how happy we are. To be sure, both factors have an impact. But one’s general sense of well-being is surprisingly malleable. The habits you cultivate, the way you interact with coworkers, how you think about stress – all these can be managed to increase your happiness and your chances of success.

An international team of scientists is set to go to Arctic to investigate the Greenland shark longevity mystery. The shark is known to be the longest living vertebrate animal on the planet Earth. One of the members is Dr. Holy Shiels, a physiologist and senior lecturer in the Faculty of Life Sciences at the University of Manchester. She will be the only British scientist in the team to study Greenland shark, which is believed to be the vertebrate animals and mammals with the longest living. The shark is reported to have lived for more than 200 years, and possibly close to or more than 400 years. The shark is both hunter and a scavenger, that feed on seals and other animals including polar bears and whales. It is also known as one of the largest sharks, reaching to five and a half meters (18 feet), very close to the size of a great white. The research team is commissioned by the Greenland government and will conduct the research on board the multi-purpose research vessel Sanna, operated by the Greenland Institute of Natural Resources. A Greenland shark is estimated to be able to live for 400 years according to Science Magazine. Professor Shiels expects to gather sufficient data of Greenland shark, a top predator in the Arctic sea. She wanted to find a clue of how Greenland shark is able to survive in the deep sea of the Arctic sea, by examining how its heart and circulation work in its normal habitat, as she specializes in the cardiovascular function. "Greenland sharks are classified as data deficient,"

Shiels said. "This means that we don't know enough to put measures in place to protect them from over-fishing, pollution or climate change."

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

Slightly less than one in five carers (19%) were primary carers (475,000 people). That is, they were the main carer of a person who was limited in carrying out the core everyday activities of mobility, communication or self-care. Both primary carers and the larger group of other carers (close to 2 million) contribute to the wellbeing of older people and people with disabilities. However, because they care for people who otherwise would have difficulty carrying out basic everyday activities, there is particular interest in primary carers: in the contribution they make, their wellbeing, labour force experiences, motivations and the support they receive in caring. Primary carers were more likely than other carers to be assisting someone who lived in the same household (81% compared with 76%). As with caring as a whole, the likelihood of being a primary carer increased with age to peak at age 55- 64 years, where one in twenty people were primary carers. However, rather than then declining, the likelihood of being a primary carer remained at around this level among the older age groups. Consequently, primary carers had a somewhat older age profile than other carers. The median age of primary carers was 52 years, compared with 47 years for other carers. Primary carers were more likely than other carers to be female (71% compared with 50%) and less likely to be in the labour force (39% compared with 60%). Women not in the labour force were by far the largest single group among primary carers (44%). In contrast, men employed full-time were the largest single group among other carers (25%).

What is museology? A simple definition might be that it is the study of museums, their history and underlying philosophy, the various ways in which they have, in the course of time, been established and developed, their avowed or unspoken aims and policies, their educative or

political or social role. More broadly conceived, such a study might also embrace the bewildering variety of audiences —visitors, scholars, art lovers, children -at whom the efforts of museum staff are supposedly directed, as well as related topics such as the legal duties and responsibilities placed upon (or incurred by) museums, perhaps even some thought as to their future. Seen in this light, museology might appear at first sight a subject so specialized as to concern only museum professionals, who by virtue of their occupation are more or less obliged to take an interest in it. In reality, since museums are almost, if not quite as old as civilization itself, and since the plethora of present-day museums embraces virtually every field of human endeavor - not just art, or craft, or science, but entertainment, agriculture, rural life, childhood, fisheries, antiquities, automobiles: the list is endless - it is a field of enquiry so broad as to be a matter of concern to almost everybody.

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

A miner in the state of Chiapas found a tiny tree frog that has been preserved in amber for 25 million years, a researcher said. If authenticated, the preserved frog would be the first of its kind found in Mexico, according to David Grimaldi, a biologist and curator at the American Museum of Natural History, who was not involved in the find. The chunk of amber containing the frog, less than half an inch long, was uncovered by a miner in Mexico's southern Chiapas state in 2005 and was bought by a private collector, who loaned it to scientists for study. A few other preserved frogs have been found in chunks of amber — a stone formed by ancient tree sap — mostly in the Dominican Republic. Like those, the frog found in Chiapas appears to be of the genus *Craugastor*, whose descendants still inhabit the region, said biologist Gerardo Carbot of the Chiapas Natural History and Ecology Institute. Carbot announced the discovery this week. The scientist said the frog lived about 25 million years ago, based on the geological strata where the amber was found.

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A farming technique practised for centuries by villagers in West Africa, which converts nutrient-poor rainforest soil into fertile farmland, could be the answer to mitigating climate change and revolutionising farming across Africa. A global study by researchers has for the first-time identified and analysed rich fertile soils found in Liberia and Ghana. They discovered that the ancient West African method of adding charcoal and kitchen waste to highly weathered, nutrient poor tropical soils can transform the land into enduringly fertile, carbon-rich black soils which the researchers dub 'African Dark Earths'. Similar soils created by Amazonian people in pre-Columbian eras have recently been discovered in South America — but the techniques people used to create these soils are unknown. Moreover, the activities which led to the creation of these anthropogenic soils were largely disrupted after the European conquest. Encouragingly researchers in the West Africa study were able to live within communities as they created their fertile soils. This enabled them to learn the techniques used by the women from the indigenous communities who disposed of ash, bones and other organic waste to create the African Dark Earths.

Although we tend to think of electric cars as being something completely modern, they were in fact some of the earliest types of motorized vehicle. At the beginning of the twentieth century electric cars were actually more popular than cars with an internal combustion engine as they were more comfortable to ride in. However, as cars fuelled by petrol increased in importance, electric cars declined. The situation became such that electric vehicles were only used for certain specific purposes - as fork-lift trucks, ambulances and urban delivery vehicles, for example. Although electricity declined in use in road vehicles, it steadily grew in importance as a means of powering trains. Switzerland, for example, was quick to develop an electrified train system, encouraged in this no doubt by the fact that it had no coal or oil resources of its own. Nowadays there is renewed interest in electricity as a means of powering road vehicles. Why is this the case? Well, undoubtedly economic reasons are of considerable importance. The cost of oil has risen so sharply that there is a strong financial imperative to look for an alternative. However, there are also environmental motivations. Emissions from cars are blamed in large part for - among other things - the destruction of the ozone layer and the resultant rise in temperatures in the polar regions. A desire not to let things get any worse is also encouraging research into designing effective electric transport.

In its periodic quest for culinary identity, Australia automatically looks to its indigenous ingredients, the foods that are native to this country. 'There can be little doubt that using an

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

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

Currently, Americans only eat about 16 grams of fiber — the parts of plants that can’t be digested — per day. That’s way less than the 25 to 30 grams that’s recommended. There are so many reasons why, from fast-food marketing to agriculture subsidies, but one contributing factor is the slow death of cooking, and the rise of the restaurant meal. Americans now spend more on food at restaurants than they do at grocery stores, but restaurant food tends to have even less fiber than the food we would otherwise eat at home. One problem seems to be that restaurant meals aren’t typically loaded with two of the best sources of fiber, unprocessed fruits and vegetables. A revealing study from 2007, in which researchers interviewed 41 restaurant executives, showed that restaurants think fruits and vegetables are too expensive to feature prominently on the menu, and “61 percent said profits drive menu selections.” They also opposed labeling certain menu items as healthier choices, saying that would be “the kiss of death.” So people like to eat out, and

when they do, they prefer mushy, fiber-free comfort foods. But that's a pretty dangerous road to go down.

Water is at the core of sustainable development. Water resources, and the range of services they provide, underpin poverty reduction, economic growth and environmental sustainability. From food and energy security to human and environmental health, water contributes to improvements in social wellbeing and inclusive growth, affecting the livelihoods of billions. In a sustainable world that is achievable in the near future, water and related resources are managed in support of human well-being and ecosystem integrity in a robust economy. Sufficient and safe water is made available to meet every person's basic needs, with healthy lifestyles and behaviors easily upheld through reliable and affordable water supply and sanitation services, in turn supported by equitably extended and efficiently managed infrastructure. Water resources management, infrastructure and service delivery are sustainably financed. Water is duly valued in all its forms, with wastewater treated as a resource that avails energy, nutrients and freshwater for reuse. Human settlements develop in harmony with the natural water cycle and the ecosystems that support it, with measures in place that reduce vulnerability and improve resilience to water-related disasters. Integrated approaches to water resources development, management and use and to human rights are the norm. Water is governed in a participatory way that draws on the full potential of women and men as professionals and citizens, guided by a number of able and knowledgeable organizations, within a just and transparent institutional framework.

Education for Global Leadership: The Importance of International Studies and Foreign Language Education for U.S. Economic and National Security Committee for Economic Development. To confront the twenty-first century challenges to our economy and national security, our education system must be strengthened to increase the foreign language skills and cultural awareness of our students. America's continued global leadership will depend on our students' abilities to interact with the world community both inside and outside our borders.

What is known as prior knowledge or pre-existing knowledge is the knowledge, skill or ability that a learner brings to a new learning encounter. This includes all knowledge that is available before the learning event, and which has been gathered or developed by any means, and in any situation, including both formal and, quite often, informal learning situations. Learners need enough previous knowledge and understanding to enable them to learn new things; they also need help making links with new and previous explicit knowledge. It is considered to be valuable to go through a process of what has been called activating prior knowledge. Teachers often go through this process at the beginning of a new topic. They also use introductory strategies at the beginning of lessons which are continuations from previous lessons. In terms of the practicalities of teaching, this is a process of making children think about the topic or remember what has been covered already. In terms of theory, it is to do with activating particular schemas.

A marketing objective is a marketing target or goal that an organization hopes to achieve such as to boost market share from 9 to 12 per cent within 2 years. Marketing objectives steer the direction of the business. Operating a business without knowing your objectives is like driving a car without knowing where you want to go. Some businesses achieve a degree of success without setting marketing objectives; stumbling across a successful business model by accident. But why should anyone rely on chance? If firms set marketing objectives the probability of success increases because decision making will be more focused. Marketing objectives must be compatible with the overall objectives of the company. They cannot be set in isolation by the marketing department. Achieving the marketing objective of boosting share from 9 to 12 per cent will help realize a corporate objective of growth. To be effective, marketing objectives should be quantifiable and measurable. Targets should also be set within a time frame. An example of a marketing objective that Nestle might set is To achieve a 9 per cent increase in the sales of KitKat by the end of next year A car manufacturer, such as BMW could set the following marketing objective: 'To increase the number of BMW 3 Series cars sold in China from 250,000 to 400,000 over the next 12 months'. Setting sales volume targets can be particularly important in industries such as car manufacturing because of the high fixed costs of operating will be spread across a greater number of units of output, reducing fixed costs per unit.

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

Many technologies have promised these qualities, but few have been commercially viable. What's been lacking is the performance data needed to demonstrate that these technologies are durable, genuinely environmentally beneficial, and suitable to be insured. Over the past 13 years, our Department of Architecture & Civil Engineering has led on research into straw as a low-impact building material. This work, which has included developing a unique straw bale panel as well as scientific monitoring and testing, has now culminated in crucial industry certifications. The BM

TRADA's Q-Mark certification guarantees a straw building's energy efficiency, fire safety, durability and weather-resilience and means that developers and homebuyers can now get insurance and mortgages for straw homes and buildings. The innovative straw walls in the new houses provide two times more insulation than required by current UK building regulations. Based on monitoring a residential straw-bale development in Leeds, fuel bill reductions up to 90% can be expected. The walls have been built using ModCell technology; prefabricated panels consisting of a wooden structural frame infilled with straw bales or hemp and rendered with either a breathable lime-based system or ventilated timber or brick cladding. This technology combines the lowest carbon footprint and the best operational CO₂ performance of any system of construction currently available. In fact, as an agricultural co-product, straw buildings can be carbon negative as straw absorbs CO₂ when it grows.

If it seems like you're not getting enough sleep, you're not alone. People have evolved to sleep much less than chimps, baboons or any other primates studied so far, a new study finds. Charles Nunn and David Samson are evolutionary anthropologists. They study how humans have evolved to behave the way we do. Nunn works at Duke University in Durham, N.C. Samson works at the University of Toronto Mississauga in Canada. In their new study, the two compared sleep patterns in 30 different species of primates, including humans. Most species slept between nine and 15 hours daily. Humans averaged just seven hours of shut-eye. Based on lifestyle and biological factors, however, people should get 9.55 hours, Nunn and Samson calculate. Most other primates in the study typically sleep as much as the scientists predicted they should. Nunn and Samson shared their findings online February 14 in the *American Journal of Physical Anthropology*. The researchers argue that two long-standing features of human life may play into our short sleep times. The first stems from when humans' ancestors descended from the trees to sleep on the ground. At that point, people probably had to spend more time awake to guard against predators. The second may reflect the intense pressure humans face to learn and teach new skills and to make social connections. That has left less time for sleep. As sleep declined, rapid-eye movement — or REM — sleep took on an outsize role in humans, Nunn and Samson propose. REM sleep is when we dream. And it has been linked to learning and memory. "It's pretty surprising that non-REM sleep time is so low in humans," Nunn says. "But something had to give as we slept less."

The National Oceanography Center (NOC) is engaged in research into the potential risks and benefits of exploiting deep-sea mineral resources, some of which are essential for low-carbon technology, as well as using ocean robots to estimate the environmental impact of these potential deep-sea mining activities. Late last year the NOC led an expedition on the RRS James Cook that found enough of the scarce element Tellurium present in the crust of a submerged volcano that, if it were all to be used in the production of solar PV panels, could provide two-thirds of the UK's annual electricity supply. Recently, the NOC also led an international study demonstrating deep-sea nodule mining will cause long-lasting damage to deep-sea life, lasting at least for decades. These nodules are potato-sized rocks containing high levels of metals, including copper, manganese and nickel. They grow very slowly on the sea-bed, over millions of years. Although no commercial operations exist to extract these resources, many are planned. Professor Edward Hill, Executive Director at the NOC commented, "By 2050 there will be nine billion people on earth and attention is increasingly turning to the ocean, particularly the deep ocean, for food, clean supplies of energy and strategic minerals. The NOC is undertaking research related to many

aspects and perspectives involved in exploiting ocean resources. This research is aimed at informing with sound scientific evidence the decisions that will need to be taken in the future, as people increasingly turn to the oceans to address some of society's greatest challenges."

Banks provide short-term finance to companies in the form of an overdraft on a current account. The advantage of an overdraft is its flexibility. When the cash needs of the company increase with seasonal factors, the company can continue to write cheques and watch the overdraft increase. When the goods and services are sold and cash begins to flow in, the company should be able to watch the overdraft decrease again. The most obvious example of a business which operates in this pattern is farming. The farmer uses the overdraft to finance the acquisition of seed for arable farming, or feed through the winter for stock farming and to cover the period when the crops or animals are growing and maturing. The overdraft is reduced when the crops or the animals are sold. The main disadvantage of an overdraft is that it is repayable on demand. The farmer whose crop fails because of bad weather knows the problem of being unable to repay the overdraft. Having overdraft financing increases the worries of those who manage the company. The other disadvantage is that the interest payable on overdrafts is variable. When interest rates increase, the cost of the overdraft increases. Furthermore, for small companies there are often complaints that the rate of interest charged is high compared with that available to larger companies. The banks answer that the rates charged reflect relative risk and it is their experience that small companies are more risky.

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

Write Essay

Nowadays, many young people are imitating celebrities in sports and movies. What do you think about this?

Some believe travel is overrated. People argue whether travel is or is not a component of a quality education. To what extent do you agree with it?

In our technological world, the number of new inventions has been increasing. Please make an example with its impact on our life, and explain if it is beneficial or not.

Television serves many useful functions. It helps people to relax. Besides, it can also be seen as a companion for lonely people. To what extent do you agree with this? Explain it with your own experience.

In our technological world, the number of new inventions has been evolving on a daily basis. Please describe a new invention, and determine whether it will bring advantages or disadvantages.

Nowadays, more and more people engage in dangerous activities, such as skydiving, skiing and extreme motorcycling. Are you in favor of such activities or not? Why?

The disadvantages of tourism in less developed countries are as great as the advantages. What is your opinion?

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

Should marketing in companies which produce consumer goods like food and clothing, place emphasis on reputation of the company or short-term strategies like discount and special offers? Why?

Imagine you have been assigned on the study of climate change. Which area of climate change will you choose and why? Use examples.

It is often argued that studying overseas is overrated. There are many scholars who study locally. To what extent do you agree with this ?

Effective study requires time, comfort and peace. it is impossible to combine learning with employment. To what extent do you think the statements are realistic? Give your opinion with examples.

Experience is the best teacher. Some people think life experiences teach people more efficiently than books or formal education can. How far do you agree with this statement? Give your reason or provide your personal experience.

Global problems are related to governments and international organizations. What are the problems and what is your solution?

In a cashless society, people use more credit cards instead of cash. Cashless society seems to be a reality. How realistic do you think it might be? What are the benefits and problems of this phenomenon?

Tourism is good for some less developed countries, but also has some disadvantages. Discuss.

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

The world's governments and organizations are facing a lot of issues. Which do you think is the most pressing problem for the inhabitants on our planet and give the solution?

Do you think the design of buildings affects positively or negatively where people live and work?

Some people point that experiential learning (i.e. learning by doing it) can work well in formal education. However, others think a traditional form of teaching is the best. Do you think experiential learning can work well in high schools or colleges?

Employers should get their employees involved in the decision making process. What are the pros and cons of such a policy about products and services?

Nowadays, people spend too much time at work to the extent that they hardly have time for their personal life. How widespread do you think it is? Discuss the problems caused by the shortage of time.

Nowadays television has become an essential part of life. It is a medium for disseminating news and information, and for some it acts as a companion. What is your opinion about this?

It is argued that getting married before finishing your study or getting established in a good job is foolish. To what extent do you agree or disagree?

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

Many education systems assess students using formal written examinations. Those kinds of exams are a valid method. To what extent do you agree or disagree? Give examples with your own experience.

Communication has changed significantly in the last 10 years. Discuss the positive and negative impacts of this change.

Climate change is a concerning global issue. Who should take the responsibilities, governments, big companies or individuals?

As cities expand, some people claim governments should try to create better networks of public transportation available for everyone rather than building more roads for vehicle owning population. What's your opinion? Give some examples or experience to support your opinion.

Medical technology is responsible for increasing the average life expectancy. Do you think it is a blessing or a curse?

Nowadays, it is increasingly more difficult to maintain the right balance between work and other aspects of one's life, such as leisure pursuits with family members. How important do you think this balance is? What are the reasons that make some people think that this is hard to achieve?

In many towns and cities, large shopping malls are replacing small local shops. Do you think this is a positive development? Use your own experiences.

Some universities deduct marks from students' works if they are given in late. What is your opinion? Suggest some alternative actions.

Should parents be held legally responsible for the actions of their children? Support your opinion with personal examples.

In the past 100 years, there have been many inventions such as antibiotics, airplanes and computers. Which do you think is the most important one? Why?

Nowadays, people devote too much time to their job. This leaves very little time for their personal life. How widespread is the problem? What problem will this shortage of time cause?

There are both problems and benefits for high school students to study.

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

The information revolution brought about by modern mass media has both positive and negative consequences to individuals and society. To what extent do you agree with this statement? Discuss with your own experience.

Mass media, such as TV, radio and newspapers, has an influence on people, particularly on younger generations. It plays a pivotal role on shaping the opinions of people, especially teenagers and young people. Do you agree with this? Please give examples.

Some people think that universities should not provide so much theoretical knowledge but give more practical training through out their courses. To what extend do you agree or disagree with this opinion?

Some people say involvement of youth in crimes is increasing at an alarming rate. What is your opinion?

Some languages are increasingly spoken in different countries, while the usage of others is rapidly declining. Is this a positive or a negative development?

What is the role of writing theater plays and discussing ancient writings in the study of high school students?

Television serves many functions. Watching TV makes us relax. We can gain knowledge and information from TV programs. Besides, TV can also be seen as a companion for lonely people. To what extent do you agree with this? Explain it with your own experience.

In our technological world, the number of new inventions has been increasing. Please describe a new invention, and determine whether it will bring advantages or disadvantages.

Nowadays, more and more people engage in dangerous activities, such as skydiving and motorcycling. Are you in favour of such activities or not? Use examples to support your opinion.

The disadvantages of tourism in less developed countries are as great as the advantages. What is your opinion?

Some people think human behavior can be limited by the law, while others think the law has little effect. What is your opinion?

Should marketing in companies which produce consumer goods like food and clothing, place emphasis on reputation of the company or short-term strategies like discount and special offers? Why?

Imagine you have been assigned on the study of the climate change. Which area of climate change will you choose and why? Use examples

It is often argued that studying overseas is overrated. There are many scholars who study locally. To what extent do you agree that this can effect a quality education?

Effective study requires time, comfort and peace. Study and employment distract one from another. So it is impossible to combine study and employment. To what extent do you think the statements are realistic? Support your opinion with examples.

Experience is the best teacher. Some people think that life experience is more important than the formal teachers and books in schools and universities. How far do you agree with this statement? Give your reason or provide your personal experience.

In a cashless society, people use more credit cards instead of cash. Cashless society seems to be a reality. How realistic do you think it might be? What are the benefits and problems of this phenomenon?

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

There are both problems and benefits for high school students to study plays and works of theatres written centuries ago. Discuss and use your own experience.

Do you think the design of buildings affects positively or negatively where people live and work?

Some people point that experiential learning (i.e. learning by doing it) can work well in formal education. However, others think a traditional form of teaching is the best. Do you think experiential learning can work well in high schools or colleges?

Nowadays, it is increasingly more difficult to maintain the right balance between work and other aspects of one's life, such as leisure time with family members. How important do you think this balance is? What are the reasons that caused this problem ?

Mass media has an influence on people, particularly on younger generations. It plays a pivot role on shaping the opinions of people, especially teenagers and young people. What do you think about it? Please give examples.

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

Despite all the advancement made by mankind, some people still argue that gender equality is a myth. What is your opinion?

People dispute whether travel is or is not a component of a quality education. Some believe travel is overrated. What is your opinion?

There are both advantages and disadvantages of company workers assessing their own products and services. Discuss.

Television serves many useful functions. It helps people to relax. Besides, it can also be seen as a companion for lonely people. To what extent do you agree with this? Explain it with your own experience.

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Reading

RW – Fill in the Blanks

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 {patronage} and encourage walking and cycling. Also, this city can reduce the {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 {comparable} areas. It is also concluded that lack of housing supply will affect {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

Everybody eats. And consumers increasingly try to consider the {environmental} effects of their food choices. For example, if you want to eat meat, how do your choices compare? That's what a group of researchers set out to {discover}. And they found that raising one animal is dramatically more environmentally draining than all the others: cows. The research is in the Proceedings of the National Academy of Sciences. The scientists noted the challenge in accessing data and creating metrics that can be compared across livestock and to potato, wheat and rice {production}. They settled on national data from the U.S. Departments of Agriculture, the Interior and Energy. The team calculated the production costs by assessing land area, water needs and fertilizer. They also analysed greenhouse gas {emissions}. Producing pork, poultry, eggs and dairy were between two and six times less efficient than growing potatoes, wheat and rice. And in the current {agricultural} system, beef uses 28 times more land, 11 times more water and six times more fertilizer than the average of the other categories of livestock. Cattle ranching also creates five times more greenhouse gas emissions. The researchers hope this data will help consumers make informed choices and policy makers create systems that can reduce the environmental costs of what we eat.

Choices:

1. spiritual, economic, environmental, material
2. exemplify, squander, discover, purchase
3. production, corruption, consumption, inventory
4. conjectures, manufacture, emissions, purification
5. agricultural, impalpable, ungrammatical, terminal

The famous dictionary of Samuel Johnson, published in London in 1755; its principles dominated English {lexicography} for more than a century. This two-volume work surpassed earlier dictionaries not in {bulk} but in the precision of definition. Its strength lay in two features: the original carefully divided and ordered, elegantly formulated definitions of the main word stock of the language; and the copious citation of quotations from the entire range of English literature, which served in support and illustration and which {exemplified} the different shades of meaning of a particular word. A Dictionary of the English Language included a history of the language, a grammar, and an extensive list of words representing basic general vocabulary, based on the best conversation of {contemporary} London and the normal usage of respected writers. The original was followed in 1756 by an abbreviated one-volume version that was widely used far into the 20th century. Johnson's accomplishment was to provide for the English language a dictionary that incorporated with skill and intellectual power the {prevailing} ideals and resources and the best available techniques of European lexicography. It was the standard English dictionary until Noah Webster's.

Choices:

1. hieroglyph, lexicography, hierarchy, taxonomy
2. busk, barn, bask, bulk
3. classified, exemplified, signified, simplified
4. contemptuous, contemplative, contemporary, contemptible
5. prevailing, condescending, dignifying, demeaning

Clown fish became famous thanks to the movie Finding Nemo. In real life, their social hierarchy is simple: larger fish dominate their smaller {counterparts}. Now we know that to reinforce this social structure, the fish communicate with aggressive and submissive audio signals. The new info is in the journal PLoS ONE. Researchers {recorded} clown fish calls, {capturing} this noise as one chased a smaller fish. [Aggressive audio] These popping sounds function as an aggression signal. When a clown fish has been chased and wishes to submit, it shakes its head in a submissive gesture and produces clicking noises like these. The researchers {compared} the aggressive and submissive calls, and found that the sound pulses in a submissive signal were shorter and more high-pitched. Unlike many animals that use sound to draw in {potential} mates, clown fish appear to use their calls only as labels of social status. When a little fish makes submissive sounds to a larger one, neither has to invest in a physical confrontation. Which is good news for small-fry like Nemo.

Choices:

1. palms, prompts, traps, counterparts
2. unfolded, deported, recorded, dialed
3. cluttering, profiting, capturing, padlocking
4. pared, compared, guided, treaded
5. exponential, potential, nimble, ventral

Owls are nearly {noiseless} hunters, swooping down on prey without any warning whoosh. How do they do it? We've known that the leading edge of an owl's wing has a comb of stiff {feathers}. And the trailing edge has a flexible fringe, unlike the rigid trailing edge of a {conventional} bird wing. These two features contribute to a structure that {produces} almost no noise as it rushes through the air. Now it appears that these {predators} have a third trick up their sleeves—or rather, wings—that allow them to be so silent but deadly. Researchers modelled the effect of the layer of down on the wing's top surface. And it looks like that fluffy stuff absorbs sound too. The work was presented at a meeting of the American Physical Society's Division of Fluid Dynamics. Mimicking owl wing down may lead to new sound-proofing materials. Down and the other silencing features could inspire wind turbines and plane engines that produce less noise and fewer vibrations. So that all we hear is silence.

Choices:

1. employables, joyfulness, noiseless, avoidances
2. feathers, beaks, claws, tracts
3. bearable, convectional, correctable, conventional
4. equals, manufactures, produces, derives
5. riveters, nebulas, predators, spiracles

For decades, scientists have used an imaging technique called functional magnetic resonance imaging, or fMRI, to {chronicle} the brain in action. But a study in the January 22nd issue of Nature suggests that fMRI might show more than what the brain is doing—it might reveal what the brain's about to do. fMRI studies assume that blood flow in the brain {correlates} with neuronal {activity}. Active brain cells need {nutrients}, which are brought to the cells by freshly oxygenated blood. But in the new study, scientists found that fMRI also detects {increased} blood flow in brain regions that aren't active—but that may be in the near future. The researchers trained monkeys to perform a specific visual task. And they found that, even when the animals were sitting in the dark waiting for the test to begin, fMRI nevertheless revealed an increased blood flow to the monkeys' visual cortex. The study suggests that fMRI data may be a lot more interesting than we thought. Scientists may be looking at their imaging data in a way that's too simplistic. And fMRI may not be measuring exactly what we thought it did. What will they think of next? Maybe fMRI can tell.

Choices:

1. stunned, strung, strong, stung
2. academic, dental, relative, indirect
3. incomes, concerns, substances, minds
4. patronizes, disallows, funds, facilitates
5. reciprocity, risk, effect, purpose

Decision making is central to the management of an enterprise. The manager of a profit-making business has to decide on the manner of implementation of the objectives of the business, at least one of which may {well} relate to allocating resources so as to maximize profit. A non-profit-making enterprise (such as a department of central or local government) will be making decisions on resource allocation so as to be economical, efficient and effective {in its use of} finance. All organizations, whether in the private sector or the public sector, {take} decisions which have financial implications. Decisions will be about resources, which may be people, products, services or long-term and short-term investment. Decisions will also be about activities, including whether and how to undertake them. Most decisions will at some stage involve consideration of financial matters, {particularly} cost.

Choices:

1. well, definitely, also, thereby
2. in its use of, to an extent of, in the accordance with, on the level of
3. beget, uplift, adapt, take
4. eventually, consequently, particularly, spontaneously

In the developed world, home appliances have greatly reduced the need for physical labour. {Fewer} people need to be involved in tasks that once left them little time to do much else. For example, the word processor and email have, to a great {extent}, replaced the dedicated secretarial staff that briefly flourished with the rise of the typewriter. At {one} time all copies were made with manual scribes, carefully duplicating what they read. Then we had carbon paper. Then photocopiers. Then printers. Then the requirement for physical copy reduced. An entire stream of labour appeared and disappeared as technology advanced. We freed ourselves of one kind of work; we just replaced it {with} another.

Choices:

1. Fewer, More, Less, Many
2. extension, possibility, range, extent
3. once, some, one, a
4. with, as, for, by

The desire to build big is nothing new. Big buildings have been used to show off power and wealth; to honour leaders or religious beliefs; to stretch the limits of what's possible; and even as simple {competition} among owners, families, architects, and builders. Some of the most {dramatic} buildings of the past include the pyramids in Egypt, the skinny towers stretching towards the sky in Italian hill towns, and the gothic cathedrals of France. While these types of buildings may look very different from each other, they all have one thing in {common}. They were built with masonry or stone walls supporting most of the weight (so-called load-bearing walls), including that of the floors, the people, and everything the rooms contained. Because of this, the height of these buildings was limited by how massive and heavy they had to be at the base. Two {developments} in the 19th century paved the way for a whole new type of building: the skyscraper. The first was the development of a safe elevator. Primitive elevators of various designs had been used for centuries, and starting in the mid-19th century, steam-operated elevators were used to move materials in factories, mines, and warehouses. But these elevators were not {considered} safe for people; if the cable broke, they would plummet to the bottom of the elevator shaft.

Choices:

1. spite, competition, division, compliment
2. dramatic, dreadful, derivative, dreary
3. conclusion, contrast, addition, common
4. metropolises, developments, contributions, leverages
5. manipulated, considered, provisioned, stipulated

Agrarian parties are political parties chiefly representing the interests of peasants or, more broadly, the rural sector of society. The extent to {which} they are important, or {whether} they even exist, depends mainly on two factors. One, obviously, is the size of an identifiable peasantry, or the size of the rural relative to the urban population. The other is a matter of social integration: for agrarian parties to be important, the representation of countryside or peasantry must not be integrated with the other major sections of society. {Thus}, a country might possess a sizable rural population, but have an economic system in which the interests of the voters were predominantly related to their incomes, {rather} than their occupations or location; and in such a country the political system would be unlikely to include an important agrarian party.

Choices:

1. where, which, what, that
2. that, how, when, whether
3. Since, Though, Thus, Because
4. even, more, rather, ever

Lucy was a single hominid skeleton found in Ethiopia. First, she was a bunch of broken fragments lying in Ethiopia. She was found by Donald Johansson and Tom Gray, who headed out to the area looking for rocks, and then drove back. {During} that return journey, Johansson spotted a forearm bone, identified it -- and then kept looking, where the two found a huge set of bones that would eventually {represent} 40 per cent of the entire skeleton. The discovery was so important because it entirely {upset} our understanding of the process of evolution. She showed that people had been wrong to think that we became intelligent before we stood up-- Lucy and her contemporaries were better suited for walking {upright} than we were, but appeared to have been much less {intellectually} advanced. That was important because it changed our understanding of the story of evolution, implying that walking was one of the most important things in moving us towards our current state, and that brainpower might not have been the most important thing.

Choices:

1. Despite, For, Towards, During
2. represent, reproduce, present, count
3. upset, discharged, assimilated, undermined
4. outright, upright, upper, vertical
5. intentionally, instantaneously, intellectually, technologically

Rudman looks at how a poor understanding of Maths has led historians to false conclusions about the Mathematical sophistication of early societies. Rudman's final observation-that ancient Greece {enjoyed} unrivalled progress in the subject while {failing} to teach it at school-leads to a {radical} punchline Mathematics could be better learnt after we

Choices:

1. marked, enjoyed, reviewed, expected
2. waiting, hesitating, hoping, failing
3. radical, rational, radish, radius
4. enter, graduate, leave, go {leave} school.

Break out the binoculars and telescopes on Saturday, May 19th. Because it's the first International Sidewalk Astronomy Night. "Sidewalk Astronomers" was founded in San Francisco in 1968, when a lot of people were seeing stars, and not just at night. The group's goal is to {expose} more people to the beauty and wonder of celestial objects with good viewing equipment and to provide {information} about what the eyewitnesses are actually looking at. The most {frequently} viewed objects are the moon; Jupiter, whose major moons are visible with good binocs; and Saturn. I once trained a cheap telescope on Saturn and some friends were so amazed at the site of the rings, they seriously looked at the other end of the scope to see if I had {doctored} it. Sidewalk Astronomy Night is indeed an international event, with dozens of public viewing sites from Beijing to the corner of 81st Street and Central Park West in Manhattan. For more info and to find a site near you, just go to the official website. And if there's no {organized} site near you, feel free to go outside and look at the stars anyway.

Choices:

1. expose, explain, transfer, defer
2. arbitration, examination, imputation, information
3. singularly, agreeably, frequently, randomly
4. sued, upgraded, overloaded, doctored
5. ossified, organized, sized, enshrined

Of the more than 1,000 bat species worldwide, 22 are {native} to North America. And while there are no pollinator bats in our area, gardeners should {champion} those that do live here, because they're insectivorous. These bats {consume} moths, beetles and mosquitoes, and can eat up to 500 mosquito-sized insects per hour. They also protect gardens and crops from such {pests} as cucumber beetles, cutworms and leafhoppers.

Choices:

1. local, national, native, residential
2. suppose, champion, breed, fight
3. spend, consume, provide, deplete
4. species, pests, objects, animals

For every action, there's a {reaction}. And for many movements we make, there's an {intention}: we think about moving, and we move. Now a study published in the May 8th issue of the journal Science suggests that the experience of moving is all in your mind. Because the part of the brain that's active when you intend to move is the same part that lets you feel like you did. Two separate brain regions are involved in moving your body. One part provides the intention, and the other powers the actual movement. But researchers didn't know which part let you know that you actually moved. In the new study, scientists were working with patients {undergoing} surgery to remove a brain tumour. Surgeons often electrically {stimulate} the area around the tumour while the patient is awake and can provide feedback, so they can avoid damaging critical tissue. The scientists found that zapping one {particular} part of the brain made their patients feel like they wanted to move their arms, lips or tongue. And ramping up the stimulation to that spot made them feel like they'd done it. But when the team poked at the region that actually caused motion, the patients didn't know they moved—a finding that's oddly moving.

Choices:

1. contraption, burden, transaction, reaction
2. intention, ascription, unchristian, indirection
3. composing, undergoing, poring, pudding
4. wait, stimulate, trait, saint
5. particular, calligrapher, regular, simpler

In *The Origin of Species*, Darwin provided abundant evidence that life on Earth has evolved over time, and he proposed natural selection as the primary mechanism for that change. He observed that individuals {differed} in their inherited traits and that selection acts on such differences, leading to {evolutionary} change. Although Darwin realized that variation in heritable traits is a prerequisite for {evolution}, he did not know precisely how organisms pass heritable traits to their offspring. Just a few years after Darwin published *The Origin of Species*, Gregor Mendel wrote a ground breaking paper on inheritance in pea plants. {In} that paper, Mendel proposed a model of inheritance in which organisms transmit discrete heritable units (now called genes) to their offspring. Although Darwin did not know about genes, Mendel's paper set the stage {for} understanding the genetic differences on which evolution is based.

Choices:

1. differed, difference, different, same
2. tremendous, evolutionary, unrivalled, enormous
3. evolution, development, growth, maturity
4. On, In, For, With
5. for, as, in, at

The environmental impact of the global textile industry is hard to overstate. One-third of the water used worldwide is spent fashioning fabrics. For every ton of cloth {produced}, 200 tons of water is polluted with chemicals and heavy metals. An estimated 1 trillion kilowatt-hours of electricity powers the factories that card and comb, spin and weave, and cut and stitch materials into everything from T-shirts to towels, {leaving} behind mountains of solid waste and a massive carbon footprint. 'Where the industry is today is not really sustainable for the long term,' says Shreyas Chaudhary, chief executive of Pratibha Syntax, a textile manufacturer based outside Indore, India. With something of an "if you build it, they will come" attitude, Mr. Chaudhary has steered Pratibha {toward} the leading edge of eco-friendly textile production. Under his direction, Pratibha began making clothes with organic cotton in 1999. Initially, the company couldn't find enough organic farms growing cotton in central India {to supply} its factories. To meet production demands, Chaudhary's team had to convince conventional cotton farmers to change their growing methods. Pratibha provided seeds, cultivation instruction, and a guarantee of fair-trade prices for {their} crops. Today, Pratibha has a network of 28,000 organic cotton growers across the central states of Madhya Pradesh, Maharashtra, and Orissa.

Choices:

1. produced, has produced, producing, is produced
2. moving, leaving, processing, looking into
3. against, onto, toward, behind
4. have supplied, supply, to supply, is supplied
5. their, some, mine, them

Great engineers have a passion to improve life; a burning conviction that they can make life better for everyone. Engineers need to have a talent for invention and innovation, but what {drives} them is the conviction that they can find a better way to do things; a cheaper and more efficient solution to the problems of human existence on this planet of {limited} resources that we call Earth. Many of us {spend} a lot of time complaining about the difficulties and problems of life. It is easy to find fault with things that make daily life arduous. For an engineer, these difficulties can be opportunities. How can this be made to work better? How can that process be made more efficient? How can {components} be made more cheaply, more accurately and more fit-for- purpose? Great engineers are convinced that everything can be {improved}. Instead of complaining, they think of ways to make things better.

Choices:

1. drives, makes, motivate, activate
2. limited, unlimited, numerous, mysterious
3. take, spend, cost, save
4. parts, elements, units, components
5. improved, created, performed, changed

With the increase in women's {participation} in the labour force, many mothers have less time {available} to undertake domestic activities. At the same time, there has been increasing {recognition} that the father's role and {relationship} with a child is important. A father can have many roles in the family, ranging from income provider to teacher, carer, playmate and role model. Therefore, balancing paid work and family responsibilities can be an important issue for both fathers and mothers in families.

Choices:

1. anticipation, substitution, participation, definition
2. available, related, consumable, useful
3. recognition, discrimination, resolution, recreation
4. scholarship, relationship, worship, employment

Sometimes it seems there's only so much we can learn about {dinosaurs} . We can't know what their coloration looked like, we can't watch them interact with each other. We can only extrapolate from their remains. But now scientists say we can discern a hint of dinosaur movement - from ostriches. The giant, flightless birds still have feathered forelimbs that scientists assumed were now solely used for display and temperature regulation. But {researchers} from Germany and Belgium carefully {observed} {hand-raised} ostriches, and modeled their movement in the surrounding air streams. They found that far from being useless in movement, the leftover wings help ostriches break quickly, turn, and zig-zag. The scientists presented their {findings} at the Society for {Experimental} Biology's annual conference in Prague. Ostriches are descendants of dinosaurs, and the researchers liken ostrich movements to those of bipedal dinosaurs. Paleontologists had previously thought that some dinos' small forelimbs had served to catch insects or rip flesh. But this new research shows dinosaurs may have used their forelimbs to help with quickness, {stability} and agility. Further study in this field could lead to more accurate ideas of what it once looked like when dinosaurs went dashing through their prehistoric landscape.

Choices:

1. phones , warts , moulds , dinosaurs
2. receivables , grievances , priestesses , researchers
3. starred , trussed , hurt , observed
4. plagued , motivate , hand-raised , grape
5. findings , sermonizes , portraitists , temporizes
6. Ventricle , Accidental , Experimental , Civil
7. impermeability , wickedly , stability , impenetrability

The general perception is that children are {surrounded} by a variety of musical experiences. There are often fewer and fewer opportunities for children to actively engage in music making themselves. They are inundated with music emitting from a wide {array} of electronic devices, toys, and computers offering a {limitless} number of musical selections. However, much of the music in children's lives is 'unchosen', in other words they are {passive} recipients in much of the music in their lives, and not actively engaged in its selection. They experience background music in computer games, cartoons, TV shows, films, on iPads, radios, and ringtones. They listen to music choices of their parents or siblings, and even the schools they attend often play music before the school day begins or in classrooms while students are working. Studies are being {conducted} on the effects of the ubiquitous pre-recorded music they encounter and whether or not it {is intruding} on their desire to make their own music or interact with each other on the playground.

Choices:

1. surrounded , deterred , deferred , characterized
2. array , appointment , access , arrangement
3. limitless , plunging , excessive , spacious
4. dormant , bilateral , active , passive
5. abandoned , culminated , confided , conducted
6. can have intruded , would have intruded , could have intruded , is intruding

Cultural studies is a new way of engaging in the study of culture. In the past, many academic subjects including anthropology, history, literary studies, human geography and sociology have brought their own disciplinary concerns to the study of culture. {However} , in recent decades there has been a {renewed} interest in the study of culture that has crossed disciplinary {boundaries} . The {resulting} activities and cultural studies have emerged as an intriguing and exciting area of intellectual inquiry which has already shed important new life on the character of human cultures and which {promises} to continue to do so. While there is a little doubt that cultural studies are coming to {be widely recognized} as an important and distinctive field of study, it does seem to encompass a potentially enormous area. This is because the term 'culture' has a complex history and range of usages, which have provided a legitimate {focus} of inquiry for several academic disciplines.

Choices:

1. However , Then , Subsequently , Consistently
2. renewed , refunded , renowned , irresistible
3. discriminations , similarities , boundaries , differentiations
4. simultaneous , spontaneous , resulting , derivative
5. have promised , promising , promises , would have promised
6. phase out , pull together , be widely recognized , be narrowly reduced
7. dispersion , focus , heart , centre

Since biological systems with signs of {complex} engineering are unlikely to have arisen from accidents or coincidences, their {organization} must come from natural selection, and hence should have {functions} useful for survival and reproduction in the environments in which humans evolved.

Choices:

1. complimentary , complex , compensatory , compendious
2. compilation , organization , eccentricity , metabolism
3. evaluations , functions , intentions , attentions

The international journal of design is a peer-reviewed, open access journal devoted to publishing research papers in all fields of design, including industrial design, visual communication design, interface design, animation and game design, architectural design, urban design, and other design related fields. It aims to provide an international forum for the {exchange} of ideas and findings from researchers across different cultures and encourages research on the impact of cultural factors {on} design theory and practice. It also seeks to promote the {transfer} of knowledge between professionals in academia and industry by emphasizing research in {which} results are of interest or applicable to design practices.

Choices:

1. infliction , change , occurrence , exchange
2. without , on , inside , at
3. overlap , transplant , transfer , estimation
4. the , which , that , what

Coastal fish farms seem to do less harm to nearby plants and animals than {previously} believed, a new study {reveals} . And marine ecosystems can {recover} from this damage {surprisingly} fast. But the analysis of a single trout farm internationally renowned in a Faroe Islands fjord over nearly a year also shows that these facilities need to be {placed} carefully, and that there's a limit to how many can operate in a particular area before its biodiversity suffers lasting harm. In coastal farms, fish live in large cages hanging from pontoons on the surface. Fish feces and uneaten food sink to the seabed, affecting its ecosystem. {Badly} managed farms can also have serious effects on the surrounding water column.

Choices:

1. collectively , individually , previously , pretentiously
2. introduces , deceives , reveals , conceives
3. derive , segregate , recover , prevent
4. visually , commonly , surprisingly , spiritually
5. dislocated , estimated , placed , dismounted
6. Well , Badly , Expectedly , Attentively

Forty years ago, yesterday, November 24, 1974, paleoanthropologist Donald Johanson found in Ethiopia what's arguably the most famous and important fossil of a human {ancestor} : Lucy. Last month, at the ScienceWriters2014 meeting in Columbus, Ohio, Johanson talked about the moment he laid eyes on Lucy. "On that eventful day in 1974 I was out, with a graduate student, Tom Gray, and we were walking back to our Land Rover to go back to camp to enjoy a swim in the river with the crocodiles and enjoy a nice little lunch. And I am always looking at the ground. I find more quarters by parking meters than anybody I know, I think. And you know how it is you find what you're looking for, right? "Because a year before the {discovery} a geologist had left his footprints four-to-five feet away from the {skeleton} , because he was looking for rocks. I was looking for bones. And I found a little piece of elbow, that little {hinge} that allows us to flex and extend our arm. And I knew from my studies of osteology, of comparative anatomy and so on, that this had to be from a human ancestor. "And as I looked up the slope, I saw other {fragments} eroding out. And we recovered over a two-week-long excavation operation roughly, not counting hand and foot bones, 40 percent of a skeleton. And this was important because first of all it broke the three-million-year time barrier. All the fossils older than three million years at that point in the history of paleoanthropology would fit in the palm of your hand...we didn't know it was a new species really until a few years later when we finally {published} in 1978 the name Australopithecus afarensis." For more, check out the blog item on our Web site by Scientific American's Kate Wong who, with Johanson, co-authored the book Lucy's Legacy. Kate's blog is titled The Fossil That Revolutionized the Search for Human Origins: A Q&A with Lucy Discoverer Donald Johanson.

Choices:

1. ancestor , dulcimer , mantissa , cullender
2. discovery , confession , concealment , interpolation
3. skeleton , singleton , insulin , chairperson
4. hinge , axis , pulley , knot
5. malice , deterrence , fragments , ballots
6. published , object , encampment , erected

Invasive species can {decrease} biodiversity and drive resident species to the brink of extinction. But how do these interlopers fare so well in unfamiliar territory? One idea is that they've escaped their enemies, for example, the {parasites} that keep them in check on their home turf. But a study in the journal *Biology Letters* suggests that notion doesn't always stand up. Because at least one kind of invasive shrimp is an even bigger pest when it has a parasite on board. The scientists were studying a {freshwater} shrimp commonly found in England. Fishermen brought the shrimp to Northern Ireland in the 1950s as a tasty treat for local trout. Well, the shrimp liked the new digs. So much that they've all but eliminated the native shrimp species. The strange thing is, they may have parasites to thank. In some streams, 70 percent of the invaders are {infected} with an intestinal worm that doesn't go for the native shrimp. But this gut worm doesn't slow them down. In fact, infected shrimp eat 30 percent more prey than those that are parasite-free. Which perhaps is not surprising. If you had a worm that {constituted} a quarter of your body weight, you'd eat more too.

Choices:

1. decrease , sheets , musketeers , inductees
2. organs , abodes , kinds , parasites
3. leftover , narrower , shipowner , freshwater
4. affected , feathered , connected , infected
5. disputed , quintupled , fueled , constituted

The discovery of a set of what look like ancient hominin footprints on the island of Crete could throw our understanding of human evolution into disarray. Received wisdom is that after {splitting} from the chimp lineage, our hominin ancestors were confined to Africa until around 1.5 million years ago. The prints found in Crete, however, {belonged} to a creature that appears to have lived 5.7 million years ago — suggesting a more complex story. More research is needed to confirm what kind of animal made them. However, the prints seem to have been {made} by a creature that walked upright, on the soles of clawless feet (rather than on its toes), with a big toe positioned like our own, rather than sticking out sideways like an ape's. It may yet turn out to have been a {previously} unknown non-hominin that had evolved with a human-like foot; but the explanatory paper, in the *Proceedings of the Geologists' Association*, is not the first to suggest that hominins could have originated in Europe. A few months ago, a team put forward evidence, gleaned from fossils found in Greece and Bulgaria that a 7.2 million-year old ape known as *Graecopithecus* was in fact a hominin.

Choices:

1. degrading , splitting , converging , escaping
2. stuck , flanked , clung , belonged
3. faked , made , filled , taken
4. previously , respectively , surprisingly , relatively

The iPhone is a line of touchscreen-based smartphones designed and marketed by Apple Inc. that use Apple's iOS mobile operating system. The first-generation iPhone was {announced} by Apple co-founder Steve Jobs on January 9, 2007. Since then Apple has periodically released new iPhone models and iOS updates. of November 1, 2018, more than 2.2 billion iPhones had been sold. The iPhone's user interface is built around a multi-touch screen with a {virtual} keyboard. The iPhone connects to cellular networks or Wi-Fi. An iPhone can make calls, browse the web, take pictures, play music and send and receive emails and text messages. Since the iPhone's launch further features have been added, including larger screen sizes, shooting video, waterproofing and the ability to install third-party mobile apps through an app store, { as well as } accessibility support. Up to 2017, iPhones used a layout with a single button on the front panel that returns the user to the home screen. Since 2017, more expensive iPhone models have switched to a nearly bezel-less front screen design with app switching activated by gesture {recognition} .

Choices:

1. announced , seen , got , taken
2. solid , visible , virtual , broad
3. more than , in spite of , as well as , except
4. estimation , establishment , production , recognition

The stock of Australia's dwellings is {evolving} , with current homes having more bedrooms on average than homes ten years ago. At the same time, households are getting smaller on average with decreasing {proportions} of couple families with children and {increasing} couple only and lone person households. This {article} examines the changes in household size and number of bedrooms from 1994-95 to 2003-04.

Choices:

1. evanescent , eternal , erupting , evolving
2. interests , proportions , appearances , durations
3. flopping , increasing , fluctuating , declining
4. statistic , suggestion , article , index

The study of objects constitutes a relatively new field of academic enquiry, commonly referred to as material culture studies. Students of material culture seek to understand societies, both past and present, through careful study and {observation} of the physical or material objects generated by those societies. The source material for study is exceptionally wide, {including} not just human-made artefacts but also natural objects and even preserved body parts (as you saw in the film 'Encountering a body'). Some specialists in the field of material culture have made bold claims for its pre-eminence. In certain disciplines, it reigns {supreme} . It plays a critical role in archaeology, for example, especially in circumstances where written evidence is either patchy or non-existent. {In such cases} , objects are all scholars have to rely on in forming an understanding of ancient peoples. Even where written documents survive, the physical remains of literate cultures often help to provide new and interesting insights into how people once lived and thought, {as in} the case of medieval and post-medieval archaeology. In analysing the physical remains of societies, both past and present, historians, archaeologists, anthropologists and others have been careful to remind us that objects mean different things to different people.

Choices:

1. experiment , modification , consumption , observation
2. includes , including , included , had included
3. at all , supreme , everywhere , far and wide
4. By no means , In such cases , In this time , In this way
5. as long as , as if , as a result of , as in

Away from the rumble of Shanghai's highways and the cacophony of the shopping districts, stroll down side streets filled with rows of tall brick {houses} . In the early evening or on a weekend morning, you'll hear the {sound} of classical music drifting from a piano, played by a 10-year old or a grandmother in her seventies. Wander down another alley toward concrete {skyscrapers} and you'll hear Beethoven or Mozart flowing from a violin, or perhaps a cello, accordion or flute. In China, classical music is {booming} as mightily as the 1812 Overture. Commanding Y100-200 (512.50425) per hour, private music teachers in Shanghai can readily earn more than five times the average per capita monthly income.

Choices:

1. rooms , piles , huts , houses
2. impact , sound , effect , noise
3. skyscrapers , craters , museums , courts
4. looming , bluffing , changing , booming

Paraphrasing is often defined as putting a passage from an author into your own words. However, what are your own words? How different must your paraphrase be from the original? The answer is it should be {considerably} different. The whole point of paraphrasing is to show you have read and understood another person's ideas, and can summarize them in your own writing style rather than borrowing their phrases. If you just change a few words, or add some bits {of} your own to an otherwise reproduced passage, you will probably {be penalized} for plagiarism. You should aim to condense and simplify a writer's ideas and describe them using different sentence structures and expressions. {It is} also important to credit the original writer by referencing.

Choices:

1. considerable , considerate , considering , considerably
2. despite , of , on , off
3. be penalizing , be penalized , have penalized , penalize
4. That has , It is , There is , That is

It is an original work, not an excerpted passage. An abstract must be fully self-contained and {make} sense by itself, without further reference to outside sources or to the actual paper. It highlights key {content} areas, your research purpose, the relevance or importance of your work, and the main outcomes. It is a well-developed single paragraph of approximately 250 words {in} length, which is indented and single spaced. The function of the abstract is to outline briefly all parts of the paper. Although {it is placed} at the beginning of your paper, immediately following the title page, the abstract should be the last thing that you write, {once} you are sure of the conclusions you will reach.

Choices:

1. get , give , take , make
2. contemplate , content , account , comment
3. from , within , to , in
4. it is placed , it places , it has placed , it is placing
5. once , then , before , and

Think of the {weirdest} creatures you've even seen in a sci-fi film. Now think of this: there are far stranger, albeit smaller, critters living in your own home. And Rob Dunn at North Carolina State University wants you to go on safari to find them. Research has been done on the {diversity} of bacteria , fungi and other organisms that live on our skin, in our guts, even in our belly buttons. But there are other entire ecosystems that surround us. And scientists want to understand how they differ based on how and where we live. What's the tiny life like on a door frame in Brooklyn compared with that in Des Moines? Or how do fridge {microbes} of an urban singleton stack up with those of a suburban family? The research team seeks ten volunteers from each state, five urban and five rural. Each volunteer will get a kit of vials and swabs, along with instructions about where and how to swipe—such as door frames, couch cushions, refrigerators, {even} yourself. The samples will be {analyzed} , to uncover the secrets of our {microscopic} companions. To find out more, go to robdunnlab.com

Choices:

1. helot , weirdest , codependent , signaled
2. pattern , surface , diversity , choice
3. firestorms , cyclops , tiros , microbes
4. without , even , against , unless
5. exempted , analyzed , clicked , forgotten
6. mechanic , microscopic , nondemocratic , epidemical

Walking through {airports} , you've probably crossed paths with a few K-9 cops. But those dogs aren't just {following} their noses. They may be led astray by where their handlers think drugs and explosives are hiding, too—even when there aren't any. That's {according} to a study in the journal *Animal {Cognition}* . The researchers {recruited} 18 dogs certified by law enforcement agencies. As a test site, they used four rooms in a drug-and-explosive-free church. The researchers left the first room untouched. In the second, they taped up a sheet of red paper. In the third, they hid a few Slim Jims as a decoy. And in the fourth, they taped red paper to a stash of Slim Jims. The dog handlers were told they might encounter the scent of pot or {gunpowder} up to three times per room, sometimes marked with red paper. It was a flat-out lie—there were no target scents. But the dog teams still called 225 false alerts—most often at the site of the red paper, whether there were Slim Jims there or not. The study doesn't mean K-9 cops are totally {unreliable} in the real world. But it does imply that the dogs aren't immune to the power of suggestion—and neither are their handlers.

Choices:

1. airports , kickoffs , breadboards , braceros
2. ongoing , farrowing , bankrolling , following
3. salting , scrolling , hoarding , according
4. Voluntarism , Apprehension , Cognition , Connection
5. forewent , exuded , recruited , balloonist
6. safflower , watchtower , gunpowder , backgrounder
7. sizable , pliable , undefinable , unreliable

The {decline} in marriage rates and increase in divorce rates has led to a {decrease} in the proportion of the population that is formally married. In 1986, 60% of the population aged 15 years and over were married; by 2001 this proportion had decreased to 55%. {Conversely} the proportion of the population aged 15 years and over who were never married {increased} from 29% in 1986 to 32% in 2001. At the same time, the proportion of the population who were divorced {increased} , from 5% in 1986 to 7% in 2001, while the proportion of the population who were widowed remained at around 6%.

Choices:

1. calculation , significance , decline , decrease
2. view , change , decrease , multiplication
3. So , Conversely , Therefore , Consequently
4. doubled , rounded , increased , divided
5. flatted , turned , increased , tipped

Omniscience may be a foible of men, but it is not so of books. Knowledge, as Johnson said, is of two {kinds} , you may know a thing yourself, and you may know where to find it. Now the amount which you may actually know yourself must, at its best, be limited, but what you may know of the {sources} of information may, with proper training, become almost boundless. And here come the { value} and use of reference books-the working of one book in connection with another-and applying your own {intelligence} to both. By this means we get as near to that omniscient volume which tells everything as ever we shall get, and although the single volume or work which tells everything does not exist, there is a vast number of reference books in existence, a knowledge and proper use of which is essential to every intelligent person. Necessary as I believe reference books to be, they can easily be made to be { contributory} to idleness, and too mechanical a use should not be made of them.

Choices:

1. identifications , kinds , stages , platforms
2. resources , sources , fabrications , ends
3. proportions , validity , values , value
4. intelligence , interest , memory , mind
5. contribute , contributed , contribution , contributory

Fancy a locust for lunch? Probably not, if you live in the west, but elsewhere its a different story. Edible insects, termites, stick insects, dragonflies, grasshoppers and giant water bugs, are on the menu for an estimated 80 percent of the world' s population. More than 1000 species of insects are served up around the world. For example, Kungu cakes, made from midges, are a {delicacy} in parts of Africa. Mexico is an insect-eating, or entomophagous - hotspot, where more than 200 insect species are consumed. { Demand} is so high that 40 species are now under threat, including white agave worms. These caterpillars of the tequila giant-skipper butterfly {fetch} around \$250 a kilogram. Eating insects makes nutritional sense. Some contain more protein than meat or fish. The female gypsy moth, for instance, is about 80 percent protein. Insects can be a good {source} of vitamins and minerals too: a type of caterpillar (Usta Terpsichore) eaten in Angola is rich in iron, zinc, and thiamine. What do they taste like? Ants have a lemon tang, apparently, whereas giant water bugs taste of mint and fire ant pupae of watermelon. You have probably, inadvertently, already tasted some of these things, as insects are often accidental tourists in other types of food. The US Food and Drug Administration even issues guidelines for the number of insect parts allowed in certain foods. For example, it is acceptable for 225 grams of macaroni to contain up to 225 insect fragments.

Choices:

1. taboo , ointment , symbol , delicacy
2. Grade , Pressure , Demand , Risk
3. strike , accumulate , add , fetch
4. derivative , substitute , replica , source

It is important to emphasize the need for hard work as an essential part of studying law, because far too many students are tempted to think that they can succeed by relying on what they imagine to be their natural ability, without bothering to add the {expenditure} of effort. To take an analogy some people prefer the more or less instant {gratification} which comes from watching television adaptation of a classic novel to the rather more {laborious} process of reading the novel itself. Those who {prefer} watching television to reading the book are less likely to study law successfully, unless they rapidly acquire a {taste} for text-based materials.

Choices:

1. expenditure , exhaustion , explanation , exclusion
2. gratification , excitement , temptation , obsession
3. simple , complex , effortless , laborious
4. prefer , Enjoy , interest , like
5. knowledge , idea , motivation , taste

Participating regularly in physical activity has been shown to benefit an individual's health and {wellbeing} . Regular physical activity is important in reducing the risk of {chronic} diseases, such as heart disease and stroke, obesity, diabetes and some forms of cancer. The National Physical Activity Guidelines for Adults {recommends} at least 30 minutes of moderate-intensity physical activity, {preferably} every day of the week, to {obtain} health benefits.

Choices:

1. values , immortality , expectation , wellbeing
2. chronic , contraindicated , untouched , detectable
3. excludes , recommends , denotes , defies
4. relatively , absolutely , preferably , namely
5. charge , obtain , weigh , estimate

Can dogs tell when we are happy, sad or angry? As a dog owner, I feel {confident} not only that I can tell what kind of {emotional} state my pets are in, but also that they respond to my emotions. Yet as a hard-headed scientist, I try to take a more {rational} and pragmatic view. These {personal} observations seem more likely to result from my desire for a good relationship with my dogs.

Choices:

1. relieved , sententious , embarrassed , confident
2. political , emotional , financial , physical
3. irregular , chaste , stoical , rational
4. communal , discrete , absurd , personal

Gauss was a child prodigy. There are many {anecdotes} concerning his precocity as a child, and he made his first ground-breaking mathematical {discoveries} while still a teenager. At just three years old, he {corrected} an error in his father payroll calculations, and he was looking after his father's accounts on a regular basis by the age of 5. At the age of 7, he is reported to have amazed his teachers by summing the integers from 1 to 100 almost instantly (having quickly spotted that the sum was actually 50 pairs of numbers, with each pair summing to 101, total 5,050). By the age of 12, he was already attending gymnasium and criticizing Euclid's geometry.

Choices:

1. denials , genres , hypotheses , anecdotes
2. patents , discoveries , sketches , exaggerations
3. indulged , circumscribed , corrected , created

The rest of the universe appears to be made of a mysterious, invisible {substance} called dark matter 25 percent and a force that repels gravity known as dark energy 70 percent. Scientists have not yet {observed} dark matter directly. It doesn't interact with baryonic matter; it's completely invisible to light and other forms of electromagnetic radiation, making dark matter {impossible} to detect with current instruments. But scientists are confident it {exists} because of the gravitational effects, it appears to have on galaxies and galaxy clusters.

Choices:

1. substance , weight , appearance , space
2. contacted , configured , observed , designed
3. susceptible , impossible , resistible , liable
4. exists , spans , evaporates , depends

A novel invention for helping farmers to dry out hay more quickly has won a University of Glasgow graduate a prestigious design award. Gavin Armstrong, 23, from Kippen, Stirlingshire {scooped} the Glasgow 1999 Design Medal for his design for a swath inverter—a {device} for flipping over a hay crop to help dry out the damp underside. Dry hay is an essential farmyard food source for sheep and cows. Gavin came up with the design as part of his Product Design Engineering degree course, run in {conjunction} with Glasgow School of Art. He built a working prototype of the device which is powered and towed by a tractor and uses a pair of parallel belts to invert the swath. The rollers are driven from one hydraulic motor and are geared so as to spin at the same speed and in opposite directions {ensuring} that the touching inner two faces of the belt that perform the inversion move rearwards at the same speed.

Choices:

1. forged , consigned , renewed , scooped
2. suggestion , prediction , situation , device
3. comparison , accordance , conjunction , contrast
4. denying , supposing , imposing , ensuring

Assessments of language learning in 18-month-olds suggest that children are better at grasping the names of objects with repeated syllables, over words with non-identical syllables. Researchers say the study may help explain {why} some words or phrases, such as 'train' and 'good night', have given rise to versions with repeated syllables, such as choo-choo and night-night. The researchers say such words are easier for infants to learn, and may provide them {with} a starter point for vocabulary learning. A team from the University of Edinburgh assessed the infants' language learning behavior in a series of visual and attention tests {using} pictures on a computer screen of two unfamiliar objects. The two objects were named with made-up words which were {communicated} to the infants by a recorded voice - one with two identical syllables, for example neenee, and the other without repeated syllables, such as bolay. The infants were then tested for their recognition of {each} word. Recordings of their eye movements showed they looked more reliably at the object labeled with repeated syllables, than the other object. Researchers validated their results with a control test, in which the infants responded to pictures of familiar objects - such as a dog or an apple.

Choices:

1. that , whether , however , why
2. as , for , in , with
3. depleting , making , applying , using
4. communicated , expressed , accommodated , accelerated
5. another , dual , each , one

Don't expect a straightforward answer from Chanan Tigay about the {authenticity} or even the existence of what was promoted as the earliest version of the fifth and final book of the Jewish Torah, known to Christians as the Book of Deuteronomy in the Old Testament. As an author who spent years trying to unravel a juicy mystery and get it down on paper, Tigay wants you to read his book, "The Lost Book of Moses: The Hunt for the World's Oldest Bible," to find the answer. But at a talk on Wednesday, the writer, journalist, and fellow offered listeners an enticing peek, describing how he landed on the story of the mysterious manuscript and about his years trying to track {down} the document. From the author's description, it was a wild, Indiana Jones-type ride that included a competition to find the relic, false starts, dead ends, trips to faraway places, and an ultimate breakthrough close to home.

Options:

- 1) authenticity, area, imagination, scale
- 2) down, against, out, of

People are spending twice as much time online compared to 10 years ago, fueled by increasing use of tablets and smartphones. The biggest increase has been {among} young adults, with time spent online almost tripling from 10 hours and 24 minutes each week in 2005 to 27 hours and 36 minutes in 2014. In total, the average adult spends more than 20 hours online a week, which includes time spent on the internet at work. {Meanwhile} the average person spends 2.5 hours every week 'online while on the move' - away from their home, work or place of study. This is a five-fold increase from 2005, when the figure was just 30 minutes. Overall, the proportion of adults using the internet has risen by half - from six in ten in 2005 to almost nine in ten today, {according to} Ofcom's Media Use and Attitudes 2015 report, which questioned 1,890 adults aged 16 and over about their internet consumption habits.

Options:

- 1) within, along, between, among

2) However, Despite, Unless, Meanwhile

3) according to, due to, controlled by, except for

A Civil War reenactment is in part a memorial service. It is partly, too, a leisure activity. Furthermore, most reenactors assert an educational import to the performance, and to develop their roles many pursue archival research with a rare dedication. On the other hand, Civil War reenactments are increasingly commercial {spectacles}, with as many as fifty thousand Americans routinely gathering at (or near) historical Civil War battlefields in order to stage performances that purport to recreate the conflict, while hundreds of thousands more spectate (Hadden 1996:5). I will show how theoretical issues of {authenticity} arise as practical problems in the Civil War reenactment community by presenting my own observations from the 2006 Gettysburg reenactment and by {relying} on a number of texts produced by participant-observers. In particular I will refer to Robert Lee Hodge, who was made famous by Tony Horwitz's 1996 book, *Confederates in the Attic*, and who served as a kind of Virgil to the author on his journey through a Confederate Valhalla. From these sources I will {argue} that 'Living History' performances require an interpretive apparatus that takes genuine history as its authority, while remaining external to both participants and tourists, who may well be unaware of how closely their own involvement approximates genuine historical events.

Options:

1) points, costs, spectacles, areas

2) velocity, authenticity, ability, intensity

3) exercising, researching, building, relying

4) depose, deny, argue, suggest

Underground houses have many advantages over conventional housing. Unlike conventional homes, they can be built on {steep} surfaces and can maximize space in small areas by going below the surface. In addition, the materials excavated in construction can be used in the building process. Underground houses have less surface area so fewer building materials are used, and {maintenance} costs are lower. They are also wind, fire, and earthquake resistant, providing a secure and safe environment in extreme weather. One of the greatest benefits of

underground living is energy {efficiency}. The earth's subsurface temperature remains stable, so underground dwellings benefit from geothermal mass and heat exchange, staying cool in the summer and warm in the winter. This saves around 80% in energy costs. By {incorporating} solar design this energy bill can be {reduced} to zero, providing hot water and heat to the home all year round.

Options:

- 1) geometric, flat, overhead, steep
- 2) heating, buoyancy, maintenance, facility
- 3) ratio, consistency, efficiency, renewal
- 4) intriguing, initiating, incorporating, inventing
- 5) has reduced, can be reduced, can reduce, has been reduced

Comparing the intelligence of animals of different species is difficult, how do you compare a dolphin and a horse? Psychologists have a technique for looking at intelligence that {does} not require the cooperation of the animal involved. The relative size of an individual's brain is a reasonable indication of intelligence. Comparing {across} species is not as simple as generally expected. An elephant will have a larger brain than a human has simply because it is a large beast. {Instead}, we use the Cephalization index, which compares the size of an animal's brain with the size of its body. Based on the Cephalization index, the brightest animals on the planet are humans, {followed} by great apes, porpoises and elephants. As a general {rule}, animals that hunt for a living (like canines) are smarter than strict vegetarians (you don't need much intelligence to outsmart a leaf of lettuce). Animals that live in social groups are always smarter and have larger EQ's than solitary animals.

Options: 1) done, do, did, does

- 2) across, to, though, over
- 3) Then, Instead, Because, Otherwise
- 4) followed, follows, follow, following
- 5) theory, principal, rule, principle

Imagine a time in the not-too-distant future when your power comes from a seamless mix of renewable energy and traditional sources. It is delivered by a grid that manages thousands of windmills and hundreds of thousands of customers. Computer {controlled}, the grid is able to manage instant variations in supply and demand and provides a real time power balance. Far more complex than anything {in} existence today, it is called a smart grid. This technology is a new frontier in power supply and seen as a green solution to current outdated management systems. When introduced smart grids will result in energy savings and will allow consumers a choice in their electricity charges and to be able to select the cheapest time {slots}. The difficulty for the energy industry is that smart grids do not {exist} in reality and the power companies cannot experiment with existing supplies. Without an actual grid to conduct research on Professor Wu has had to design a simulated laboratory including input from theoretical wind generators and solar panels to feed into a constantly operating system. For an authentic approach researchers built various types of equipment failures {into} the grid to test the system. And it works.

Options:

- 1) controlled, has controlled, controls, controlling
- 2) with, without, of, in
- 3) cuts, pins, points, slots
- 4) does not exist, do not exist, are not existing, not exist
- 5) into, of, onto, above

In many areas of expertise ranging from music dance art and literature to sports chess mathematics science and foreign-language acquisition, there is abundant evidence that young people differ from one another in their attainments and in the apparent ease with which they achieve them. {Even} within a family there may be marked differences for example a child who struggles at a musical instrument without {much} success may be overtaken by a younger sibling. It is widely believed that the likelihood {of becoming} exceptionally competent in certain fields depends on the presence or absence of inborn attributes variously labelled 'talents' or 'gifts' or less often 'natural aptitudes'. According to an informal British

survey more than three-quarters of music educators who decide {which} young people are to receive instruction believe that children cannot do well unless they have special innate gifts (Davis 1994). The judgement that someone is talented is believed {to help} explain (as distinct from merely describing) that person's success. It is also widely believed that the innate talent that makes it possible for an individual to excel can be detected in early childhood.

Options:

- 1) If, Unless, Though, Even
- 2) much, many, few, so
- 3) become, of becoming, of become, to becoming
- 4) that, which, whether, this
- 5) ever help, to help, helping, help

Clean water was very important to the Romans. Cities, towns and forts were built near springs. However, as Roman cities and towns grew, they needed to bring in water from {further afield}. As the population grew, {so} did the need for clean water. Trying to shift {large} volumes of water underground in pipes was not possible as lead pipes would be too weak and bronze pipes would be too expensive. The Romans could not make cast iron pipes as the {techniques} for doing this were not known to them. If water could not be brought via pipes, the Romans decided to bring it overland in what were conduits. When the water got to the city, it was fed off into smaller bronze or ceramic pipes. To get the water to flow at an even (and slow) pace, conduits were built on a slight slope. Valleys were crossed by using aqueducts. One of the most famous of these is the Pont du Gard aqueduct at Nimes in southern France. Where possible, the Romans did take water through tunnels but the hills needed to be relatively small for this to be successful.

Options: 1) different parts, these origins, further afield, specific sources

- 2) as well, so, how, thus
- 3) collective, improper, relative, large
- 4) spans, proportions, scales, techniques

The skills you will develop on this course will help you become more confident and competent in managing written and social aspects in your current career. It will {prepare} you for further study in your area of interest. We plan to provide you with the opportunity to hear about the work of professors who have been involved in the past. We have had confirmation that they will give talks on their subjects {specially} to your group, and help you to clarify potential future directions you might take in your study and career. There are also dedicated careers services available at the University, {which} you will be entitled to use. The assessments for the first part of the program are designed to develop key study skills and to provide you with the opportunity to brush up on skills you haven't used for a long time, or feel you do not have. This will include some written work essays, as well as group work (short presentations) and you will be taught how to do these. {Details} of the assessment for each module will be explained in your first session.

Options:

- 1) send, fund, prepare, protect
- 2) specially, excessively, generally, exclusively
- 3) that, which, as, what
- 4) Dots, Fields, Details, Portraits

Canada is a country of the enormous natural resources. It is the world's largest exporter of fore products and a {top} exporter of fish, furs, and wheat. Minerals {have played} a key role in Canada's transformation into an urban-industrial economy. Alberta, British Columbia, Quebec, and Saskatchewan are the principal mining regions. Ontario and the Northwest (NWT) and Yukon Territories are also {significant} producer of uranium and potash, the third-largest of asbestos, gypsum, and nickel, and the fourth-largest of zinc. Oil and gas are exploited in Alberta, off the Atlantic coast, and in the northwest -- huge additional reserves are thought to exist in the high Arctic; oil price {is making} extraction profitable at a growing number of the country's deposit. Canada is also one of the world's top hydroelectricity producers.

Options:

- 1) fine, high, maximum, top

- 2) have played, had played, were playing, playing
- 3) similar, significant, numerous, other
- 4) are made, had made, making, is making

The supply of a thing, in the phrase "supply and demand," is the amount that will be offered for sale at each of a series of prices; the demand is the amount that will be bought at each of a series of prices. The principle that values depends on supply and demand means that in the case of nearly every commodity, more will be bought if the price is lowered, less will be bought if the price is {raised}. Therefore sellers, if they wish to induce buyers to take more of a commodity than they are already doing, must reduce its price; if they raise its price, they will sell less. If there is a general falling off in demand-- due, say, to trade depression -- sellers will either have to {reduce} prices or put less on the {market}; they will not be able to sell the same {amount} at the same price.

Options:

- 1) higher, kept, folded, raised
- 2) trade, treat, describe, reduce
- 3) store, way, market, panel
- 4) quantity, patch, amount, deal

One of the most {eminent} of psychologists, Clark Hull, claimed that the essence of reasoning lies in the putting together of two 'behavior segments' in some {novel} way, never actually performed before, so as to reach a {goal}. Two followers of Clark Hull, Howard and Tracey Kendler, devised a test for children that was {explicitly} based on Clark Hull's principles. The children were given the {task} of learning to operate a machine so as to get a toy. In order to succeed they had to go through a two-stage sequence.

Options:

- 1) radical, eminent, elementary, ideal
- 2) novel, broad, stingy, ordinary
- 3) goal, category, description, rate

4) collectively, explicitly, approximately, randomly

5) multiplication, task, area, volume

The teaching of languages could be revolutionised following ground-breaking research by Victoria University, New Zealand, PhD graduate Paul Sulzberger. Dr Sulzberger has found that the best way to learn a language is through frequent exposure to its sound patterns--even if you haven't a {clue} what it all means. "However crazy it might sound, just listening to the language, {even though} you don't understand it, is critical. A lot of language teachers may not accept that," he says. "Our ability to learn new words is directly related to how often we have been exposed to the particular combinations of the sounds which {make up} the words. If you want to learn Spanish, for example, frequently listening to a Spanish language radio station on the internet will dramatically {boost} your ability to pick up the language and learn new words." Dr Sulzberger's research challenges existing language learning theory. His main hypothesis is that simply listening to a new language sets up the structures in the brain {required} to learn the words.

Options:

1) dew, claw, clue, due

2) but also, all together, even though, if so

3) bring about, make up, break down, take place

4) evaluate, exaggerate, describe, boost

5) designated, required, directed, expressed

A renewed interest in well-being, especially among baby boomers, as well as rising personal incomes, led to more spending on health and fitness in 2005. This prompted an {expansion} in the number of fitness and recreation centres across the country. Golf courses also {enjoyed} renewed success, as the sport increased in popularity, possibly the result of retiring baby boomers heading to the links. In 2005, {households} spent an average \$3,918 on recreation, up slightly from \$3,678 in 2004. Items included in the 2005 figure are: an average

\$166 on sports and athletic equipment; \$665 to buy and {operate} recreational vehicles such as snowmobiles, bicycles and trailers; and \$299 for the use of sports and recreation facilities.

Options:

- 1) expectation, exception, erosion, expansion
- 2) allowed, enjoyed, portioned, confiscated
- 3) households, goalkeepers, advertisers, immigrants
- 4) demount, operate, duplicate, fund

Chemicals used to control weeds in crops such as corn and soybeans may sometimes run off farmland and enter surface water bodies such as lakes and streams. If a surface water body that is used as a {drinking} water supply receives excess amounts of these herbicides, then the municipal water treatment plant must {filter} them out in order for the water to be safe to drink. This added filtration process can be expensive. Farmers can help control excess herbicides in runoff by choosing chemicals that bind with {soil} more readily, are less toxic, or degrade more quickly. Additionally, selecting the best tillage practice can help minimize herbicide {pollution}.

Options:

- 1) drinking, dimming, stingy, lacquering
- 2) fill, fulfil, filter, fancy
- 3) air, space, solid, soil
- 4) connectivity, weight, pollution, latitude

Contexts is a quarterly magazine of the American Sociological Association about society and social behavior. Directed to {anyone} interested in the latest sociological ideas and research, Contexts seeks to apply new knowledge, stimulate fresh thinking, and disseminate important information {produced} by the discipline. The publication's articles synthesize key findings, weave {together} diverse strands of work, draw out implications for policy, and debate issues

of controversy. The hallmarks of Contexts are accessibility, broad appeal, and timeliness. By design, it is not a technical journal, {but} a magazine for diverse readers who wish to be current about social science knowledge, emerging trends, and their relevance.

Options:

- 1) anyone, someone, whom, nobody
- 2) covered, shaded, produced, overcome
- 3) within, together, into, regardless
- 4) and, but, also, never

People in parts of western Africa and southwestern Asia were the first to realize that the dark-silvery rocks poking out of the earth could be worked into tools and weapons, sometime around 1500 B.C., evidence shows. The metal was probably discovered there {by} accident when some ore was dropped into a fire and cooled into wrought iron, historians think. The eureka moment didn't reach Europe for {another} 500 years, traveling slowly north and west through Greece, Italy, central Europe and finally to the British Isles {with} the spread of the famous Celtic tribes. The Celts diffused iron technology over much of the continent through warfare, where their victory was assured due to the strength of iron weapons. Perhaps not the most peaceful of cultural exchanges, but where the technology did travel, it caught on fast. Iron {made} life a lot easier in those days, when just living to the age of 45 was a feat. By that time, much of Europe had {settled} into small village life, toiling the soil with bronze and stone tools.

Options:

- 1) at, for, in, by
- 2) few, another, further, less
- 3) along, with, without, for
- 4) make, made, makes, making

5) turned, settled, assigned, pressed

Uniquely stable, they {seemed} to participate in no chemical reactions. But by understanding the stability of the noble gases, physicists discovered the key to chemical bonding {itself}. Dmitri Mendeleev added the noble gases to his periodic table in 1902, where he arranged the elements in rows and columns {according} to their atomic weight. Mendeleev was able to see repeating (or periodic) patterns in their properties. The noble gases appeared {regularly} in the periodic table, occurring in every eighth position, at least amongst the lighter elements.

Options:

- 1) seemed, refused, insisted, cared
- 2) itself, only, well, proper
- 3) disproportionate, opposite, additional, according
- 4) unevenly, regularly, vagariously, vaguely

For too long we have held preconceived notions of 'the' market and 'the' state that were seemingly independent of local societies and cultures. The debate about civil society ultimately is about how culture, market and state {relate to} each other. Concern about civil society, however, is not only relevant to central and eastern Europe and the developing world. It is very much of {interest to} the European Union as well. The Civil Dialogue Initiated by the Commission in the 1990s was a first attempt by the EU to give the institutions of society - and not only governments and businesses-a voice at the policy-making tables in Brussels. The EU, like other international institutions, has a long way to go in trying to {accommodate} the frequently divergent interests of non-governmental organizations and citizen groups. There is increasing {recognition} that international and national governments have to open up to civil society institutions.

Options:

- 1) conform to, diverge from, relate to, assimilate into
- 2) distribution across, interest to, belief within, honour of

3) duplicate, accommodate, exclude, defy

4) conception, oscillation, discretion, recognition

Decision making is central to the management of an enterprise. The manager of a profit-making business has to decide on the manner of implementation of the objectives of the business, at least one of which may {well} relate to allocating resources so as to maximize profit. A non-profit-making enterprise (such as a department of central or local government) will be making decisions on resource allocation so as to be economical, efficient and effective {in its use of } finance. All organizations, whether in the private sector or the public sector, {take} decisions which have financial implications. Decisions will be about resources, which may be people, products, services or long-term and short-term investment. Decisions will also be about activities, including whether and how to undertake them. Most decisions will at some stage involve consideration of financial matters, { particularly} cost.

Options:

1) well, definitely, also, thereby

2) in its use of, to an extent of, in the accordance with, on the level of

3) beget, uplift, adapt, take

4) eventually, consequently, particularly, spontaneously

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 {patronage} and encourage walking and cycling. Also, this city can reduce the {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 comparable areas. It is also concluded that lack of housing supply will affect {affordability} in Sydney.

Options:

- 1) profit, perspective, percentage, patronage
- 2) consumption, replenishment, inventory, accumulation
- 3) compensatory, competitive, communicative, comparable
- 4) durability, floridity, fluidity, affordability

A sustainable transportation system is one in which people's needs and desires for access to jobs, commerce, recreation, culture and home are accommodated using a minimum of resources. Applying principles of {sustainability} to transportation will reduce pollution generated by gasoline-powered engines, noise, traffic congestion, land devaluation, urban sprawl, economic segregation, and injury to drivers, pedestrians and cyclists. In addition, the costs of commuting, shipping, housing and goods will be {reduced}. Ultimately in a sustainable San Francisco, almost all trips to and {within} the city will be on public transit, foot or bicycle-as will a good part of trips to the larger Bay Region. Walking through streets designed for pedestrians and bicycles will be more pleasant than walking through those designed for the automobile. Street-front retail and commercial establishments will {prosper} from the large volume of foot traffic drawn to an environment enhanced by trees, appropriately designed 'street furniture' (street lights, bicycle racks, benches, and the like) and other people. Rents and property costs will be lowered as land for off-street parking is no {longer} required or needed.

Options:

- 1) reliability, sustainability, sustain, sustainable
- 2) reduced, enhance, seduced, reducing
- 3) apart, within, among, away
- 4) origins, inject, control, prosper
- 5) smaller, longer, most, best

A good story may be given a bad title by its author, and so started toward failure. Novices are peculiarly {liable} to this fault, usually through {allowing} themselves to be too easily satisfied. They go to {infinite} pains to make the story itself fresh and individual, and then

cap it with a {commonplace} phrase that is worse than no title at all. A good title is {apt}, specific, attractive, new, and short. A title is apt if it is an outgrowth of the plot—a text, as I have said. It stands definitely for that particular story, and gives a suggestion of what is to come—but only a suggestion, lest it should anticipate the denouement and so {satisfy} the curiosity of the reader too soon.

Options:

- 1) able, responsible, liable, possible
- 2) disabling, asking, persuading, allowing
- 3) stagnant, faint, vague, infinite
- 4) misleading, invisible, distinctive, commonplace
- 5) void, default, fussy, apt
- 6) intensify, multiply, satisfy, notify

Populations can change through three processes: fertility, mortality and migration. Fertility {involves} the number of children that women have and differs from fecundity (a woman's childbearing potential). Mortality is the study of the causes, consequences and measurement of processes affecting death in a population. Demographers most commonly study mortality using the Life Table, a statistical {device} which provides information about the mortality conditions (most notably the life expectancy) in the population. Migration refers to the movement of persons from an origin place to a destination place across some pre-defined political boundary. Migration researchers do not designate movements as migrations, {unless} they are somewhat permanent. Thus, demographers do not consider tourists and travelers to be migrating. While demographers who study migration typically do so through census data on place of {residence}, indirect sources of data including tax forms and labor force surveys are also important. Demography is today widely taught in many universities across the world, {attracting} students with initial training in social sciences, statistics or health studies.

Options:

- 1) contributes, rotates, involves, encapsulates
- 2) ingredient, room, factor, device

3) but, though, unless, however

4) commute, residence, life, health

5) researching, attracting, analyzing, discriminating

RE-ORDER PARAGRAPHS

- 1) Many think the best way to make foreigners understand is to be chatty and informal.
- 2) Anyone wanting to get to the top of international business, medicine or academia (but possibly not sport) needs to be able to speak English to a pretty high level.
- 3) This may seem friendly but, as it probably involves using colloquial expressions, it makes comprehension harder.
- 4) Equally, any native English speaker wanting to deal with these new high achievers needs to know how to talk without baffling them.
- 5) Because so many English-speakers today are monoglots, they have little idea how difficult it is to master another language.

A-2,4,5,1,3

- 1) But when calculating destruction, the earthquake took second place to the great fire that followed.
- 2) The fire, lasting four days, most likely started with broken gas lines (and, in some cases, was helped along by people hoping to collect insurance for their property—they were covered for fire, but not earthquake, damage).
- 3) At 5:12 a.m. on April 18, 1906, the people of San Francisco were awakened by an earthquake that would devastate the city.
- 4) The main temblor, having a 7.7-7.9 magnitude, lasted about one minute and was the result of the rupturing of the northernmost 296 miles of the 800-mile San Andreas fault.

A-3,4,1,2

- 1) People with spare bedrooms would welcome strangers into their homes and share restaurant recommendations with them for a small fee.
- 2) Fast forward to 2016 and the big, successful Airbnb is considered a mainstay of what we now call "the sharing economy".
- 3) Back in 2008 a small company in San Francisco called Airbnb had a dream.
- 4) It is also the business that defines the mentality of the millennial.

A-3,1,2,4

- 1) From outside Wales, too, it is the rugby that commonly defines the nation - with the sport providing both widespread interest and one of the few positive associations of outsiders' perceptions of Wales.
- 2) In many ways rugby in Wales defines what Wales is and what people in Wales share.
- 3) Rugby in Wales is a particularly strong example of this phenomenon, being perhaps the main thing that unites people in Wales.
- 4) Citizens commonly identify with their nation in the context of major sporting events: imagining the nation is easier when there is a national team playing another nation (Hobsbawm, 1990).

A-4,3,2,1

- 1)But what does this really mean to you, your company and your country?
- 2)Decades ago, we connected computers and got today's powerful Internet.
- 3)What are the possibilities it offers, and the threats it poses?
- 4)In the last few years, we started to connect everyday objects using machine-to-machine (M2M) technologies, to create the Internet of Things.

A-2,4,1,3

- 1)How these two media leapfrogged through the Victorian age, defining themselves against one another, is the subject of Tate Britain's exhibition *Painting with Light*.
- 2)Photography, from its appearance in 1839, looked to painting for fundamental models of depiction.
- 3)Dependence, rivalry, envy, emulation: painting and photography, like members of a dysfunctional yet inseparable family, just cannot cast off lineages of influence and appropriation.
- 4)Yet it threw the older medium into crisis, removing at a stroke painting's unique capacity to bear witness.

A-3,2,4,1

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

A-1,4,3,2

- 1)The intention was to record as much music as possible as quickly as possible, before encroaching influences like radio and cinema began transforming the region's distinctive culture.
- 2)Early in 1938, Mario de Andrade, the municipal secretary of culture here, dispatched a four-member Folklore Research Mission to the northeaster hinterlands of Brazil on a similar mission.
- 3)They recorded whoever and whatever seemed to be interesting: piano carriers, cowboys, beggars, voodoo priests, quarry workers, fishermen, dance troupes and even children at play.
- 4)But the Brazilian mission's collection ended up languishing in vaults here.

A-2,1,3,4

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

A-4,3,2,5,1

- 1)They can be surprised by the results.
- 2)But a growing number of companies are setting up schemes to recruit young workers.
- 3)They are sceptical about young people's skills and their readiness for work.
- 4)Employers are often reluctant to hire young people, even though there are more than 850,000 unemployed 16 to 24-year-olds and UK businesses are struggling to fill one in five vacancies because of skills shortages.

A-4,3,2,1

- 1)The energy sector has a fantastic skills shortage at all levels, both now and looming over it for the next 10 years.
- 2)With the pressures of climate change and the energy gap, in the last few years funding from the research councils has probably doubled.
- 3)Engineers are much needed to develop greener technologies.
- 4)Not only are there some good career opportunities, but there's a lot of money going into the research side, too.

A-3,1,4,2

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

A-3,4,2,1

- 1) We should emphasize the old-fashioned virtues of uniting in the face of a crisis, of resourcefulness and community action.
- 2) He proposes that instead of arguing for sacrifice, environmentalists should show where the rewards might lie: that understanding what the science is saying and planning accordingly is the smart thing to do, which will protect your interests more effectively than flinging abuse at scientists.
- 3) Our view is formed by the views of people with whom we mix.
- 4) In his fascinating book *Carbon Detox*, George Marshall argues that people are not persuaded by information.
- 5) Of the narratives that might penetrate these circles, we are more likely to listen to those that offer us some reward.

A-4,3,5,2,1

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

A-5,1,3,2,4

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

A-2,3,5,1,4

- 1) Second, and more important, the Arcelor Mittal deal demonstrates Europe's deepening integration into the global economy.
- 2) The story tells us two things about European business, both positive.

- 3)First, shareholder activism is increasing in a continent where until recently it was depressingly rare.
- 4)It was taken over by Mittal, a Dutch-registered company run from London by its biggest single shareholder, Lakshmi Mittal, an Indian who started his first business in Indonesia.
- 5)The takeover battle raged for six months before Arcelor's bosses finally listened to shareholders who wanted the board to accept Mittal's third offer.

A-4,5,2,3,1

- 1)Young children don't possess these qualities and are easily angered, cry frequently and are incapable of understanding the external difficulties facing the community, such as shortages of food.
- 2)Jean Briggs has worked with the Inuit of the Canadian Arctic and has described how, within these communities, growing up is largely seen as a process of acquiring thought, reason and understanding (known in Inuit as human).
- 3)It's only when they are older and begin to acquire thought that parents attempt to teach them or discipline them.
- 4)Because they can't be reasoned with, and don't understand, parents treat them with a great deal of tolerance and leniency.

A-2,1,4,3

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

A-3,4,2,5,1

- 1)Eventually whole societies existed that seemed to do little else.
- 2)He (or very possibly she) took one stone and carefully used it to shape another.
- 3)It was so superior to existing tools that soon others were following the inventor's lead and making hand-axes of their own.
- 4)The result was a simple teardrop-shaped hand-axe, but it was the world's first piece of advanced technology.
- 5)Sometime about a million and a half years ago, some forgotten genius of the hominid world did an unexpected thing.

A-5,2,4,3,1

- 1)Leave to cook for five years and you have a feast of profits.
- 2)Add some generous helping of debt, a few spoonsful of management incentives and trim all the fat.
- 3)Take an underperforming company
- 4)That has been the recipe for private-equity groups during the past 200 years.

A-3,2,1,4

- 1)The aim of the school is to cover a wide range of topics associated with thermal neutron scattering, including powder diffraction, stress analysis, texture, reflectometry, and small-angle neutron scattering together with the underlying theory associated with neutron scattering.
- 2)The theory will be presented in a way that should be understood by people in any of these fields.
- 3)For more information, see the Canadian Institute for Neutron Scattering's Neutron Summer School.
- 4)The Canadian Institute for Neutron Scattering will be holding the eleventh neutron summer school at Chalk River on May 8- 13, 2011.

A-4,1,2,3

- 1)In order to do this, the manager should be able to motivate its employees.
- 2)The job of a manger in the workplace is to get things done through the employees.
- 3)However, this easier said than done.
- 4)Motivation practice and theory are difficult, complex subjects touching on several disciplines.

A-2,1,3,4

- 1)The movement also creates gaps in tectonic plates, which reduce the pressure on the mantle beneath it, allowing it to melt and push through.
- 2)The build-up and sudden release of friction from this movement can cause earthquakes.
- 3)This leads the tectonic plates on top to slowly jostle one another.
- 4)The mantle makes up 84 percent of Earth's volume, and though it's solid rock, over the course of millions of years, it behaves like a liquid.

A-4,3,2,1

- 1)Others, however, believe that the fossil evidence suggests that, at various stages in the history of life, evolution progressed rapidly, in spurts, and that major changes occurred at these points.
- 2)An evolving group may have reached a stage at which it had an advantage over other groups and was able to exploit new niches in nature. Climate change may also have produced a "spurt", as might the extinction of other groups or species, leaving many niches vacant.

- 3) Today, many years later, many believe that evolution has progressed at the same steady rate and that the absence of transitional forms can be explained by Darwin's argument that there are huge gaps in the fossil record and that transition usually occurred in one restricted locality.
- 4) Palaeontologists still argue about the origins of major groups, though new fossil finds since Darwin's time have cleared up many of the disparities in the fossil record. Even during Darwin's lifetime, some transitional forms were found.

A-4,3,1,2

- 1) One of the Tibetan names for this mountain translates as "Mountain So High That No Bird Can Fly Over It". It was first measured in 1852 and was called Peak XV until 1865, when it was named after the British Surveyor of India, Sir George Everest.
- 2) About 200 million years ago, the Indian subcontinent broke away from a vast southern super-continent called Gondwanaland. It drifted northeast across the sea and collided with the Asian landmass. These two huge landmasses buckled, rather like cars in a head-on collision, and rose up to form the world's tallest mountain.
- 3) Mapping the Himalayas and Everest wasn't easy. Foreigners were not welcome, so Himalayan traders were recruited to infiltrate the area and gather enough information to allow accurate maps to be made.
- 4) Fossilized fish remains have been found high up on the slopes of Everest proving that the world's highest mountain once lay at the bottom of the sea. How did this happen?

A-4,2,1,3

- 1) Despite posting healthy profits, Volkswagen shares trade at a discount to peers due to bad reputation among investors, high capital expenditure and its close links to the state of Lower Saxony, which effectively has a blocking minority.
- 2) A disastrous capital hike, an expensive foray into truck business and uncertainty about the reason for a share buyback has in recent years left investors bewildered.
- 3) "The main problem with Volkswagen is the past. Many investors have been disappointed and frightened away," said one Paris-based fund manager.
- 4) Volkswagen shares trade at about nine times the 2002 estimated earnings, compared to BMW's 19 and are the second cheapest in the sector.

A-1,2,3,4

- 1) Perhaps they can acquire grammar like humans if they could only express it some other way.
- 2) It does not follow from their lack of speech, however, that chimpanzees are incapable of language.
- 3) Chimpanzees cannot speak because, unlike homo sapiens, their vocal cords are located higher in their throats and cannot be controlled as delicately as human vocal cords.
- 4) A logical candidate for such a species is the chimpanzee, which shares 98.4% of the human genetic code.
- 5) A simple way to disprove this hypothesis (the Innateness Hypothesis) is to demonstrate that other species have the capacity to speak but for some reason simply have not developed speech.

A-5,4,3,2,1

- 1) It is also a recurrent theme in the press, from the highbrow pages of Prospect to the populism of the Daily Mail.
- 2) In the early years of the twenty-first century the impact of immigrants on the welfare state has become a staple of discussion among policy makers and politicians.
- 3) Inevitably, these discussions focus on present-day dilemmas.
- 4) But the issues themselves are not new and have historical roots that go much deeper than have been acknowledged.

A-2,1,3,4

- 1) When this bank was founded in 1695, Scots coinage was in short supply and of uncertain value, compared with English, Dutch, Flemish or French coin.
- 2) In most countries it is only the government, through their central banks, who are permitted to issue currency.
- 3) But in Scotland three banks are still allowed to issue banknotes.
- 4) To face growth of trade it was deemed necessary to remedy this lack of an adequate currency.
- 5) The first Scottish bank to do this was the Bank of Scotland.

A-2,3,5,1,4

- 1) There had already been some legislation to prevent such abuses - such as various Factory Acts to prevent the exploitation of child workers.
- 2) Mill was able to see an expanded role for the State in such legislation to protect us against powerful interests.
- 3) These markets had become rapidly dominated by powerful enterprises who were able to act in their own interests, against the interests of both workers and consumers.
- 4) He was able to argue that the State was the only organ that was genuinely capable of responding to social needs and social interests, unlike markets.
- 5) Markets may be good at encouraging innovation and following trends, but they were no good at ensuring social equality.

A-5,3,1,2,4

- 1) Unlike Barnes' previous books, Mother of Storms has a fairly large cast of viewpoint characters.
- 2) But even the Evil American Corporate Magnate is a pretty likable guy.
- 3) They're not all necessarily good guys, either, although with the hurricanes wreaking wholesale destruction upon the world's coastal areas, ethical categories tend to become irrelevant.
- 4) This usually irritates me, but I didn't mind it here, and their interactions are well-handled and informative, although occasionally in moving those about the author's manipulations are a bit blatant. (Especially when one character's ex-girlfriend, who has just undergone a sudden and not entirely credible change in personality, is swept up by a Plot Device in Shining Armor and transported directly across most of Mexico and a good bit of the States to where she happens to bump into another viewpoint character.)

A-1,4,3,2

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

A-1,2,3,4

- 1)Cash transactions offer both privacy and anonymity as it does not contain information that can be used to identify the parties nor the transaction history.
- 2)Moreover, money is worth what it is because we have come to accept it.
- 3)The whole structure of traditional money is built on faith and so will electronic money have to be.
- 4)To support e-commerce, we need effective payment systems and secure communication channels and data integrity.
- 5)Electronic transactions are happening in closed group networks and Internet. Electronic commerce is one of the most important aspects of Internet to emerge.

A-1,2,3,5,4

- 1)Art historians compare different time periods in art history.
- 2)The study includes painting, sculpture, architecture, ceramics, furniture, and other decorative objects.
- 3)Art history is the history of different groups of people and their culture represented throughout their artwork.
- 4)Art history is the study of objects of art in their historical development and stylistic contexts.
- 5)As a term, art history (its product being history of art) encompasses several methods of studying the visual arts; in common usage referring to works of art and architecture.

A-4,2,3,1,5

- 1)In 1571, it became the capital of Spanish Florida.
- 2)He erected fort San Marcos in six days in defence against a Native American attack such as the one that forced the abandonment of the town a year earlier.
- 3)The town had flourished, nearing 400 residents, since its establishment more than a decade earlier in 1566 by Pedro Menendez de Aviles who had founded La Florida and St. Augustine the year before.
- 4)Marquez arrived in October 1577 at the abandoned town of Santa Elena with two ships carrying pre-fabricated posts and heavy planking.

A-4,2,3,1

- 1)Over the years, I have had the opportunities to observe and understand the thought process behind the ads that have been flooding both the print and the TV.
- 2)Although there is a huge shift in the quality of ads that we come across on daily basis-thanks essentially to improvement in technology, I somehow can't help but feel that the quality of communication of the message has become diluted.
- 3)There is an increasing attempt by most companies to be seen as cool and funky.
- 4)Proportionally, the numbers of ads that lack in quality have gone up exponentially as well.
- 5)Another reason could be the burgeoning number of companies, which means an exponential increase in the number of ads that are being made.

A-1,2,3,5,4

- 1)Normally in Delhi, September is a month of almost equatorial fertility and the land seems refreshed and newly-washed.
- 2)Nevertheless the air was still sticky with damp-heat, and it was in a cloud of perspiration that we began to unpack.
- 3)But in the year of our arrival, after a parching summer, the rains had lasted for only three weeks.
- 4)As a result dust was everywhere and the city's trees and flowers all looked as if they had been lightly sprinkled with talcum powder.

A-1,3,4,2

- 1)Julia Bocking's Literacy and Dads (LADS) project aims to increase the number of fathers participating as literacy helpers in K-1 school reading programs at Quimbaya Primary Schools.
- 2)A University of Canberra student has launched the nation's first father-led literacy project, to encourage fathers to become more involved in their children's literacy.
- 3)Having worked as a literacy tutor with teenagers, she saw the need for good attitudes towards reading to be formed early on - with the help of more male role models.
- 4)'A male that values reading sets a powerful role model, particularly for young boys, who are statistically more likely to end up in remedial literacy program', she said.

A-2,1,3,4

- 1)Many countries are suffering a shortage of scholars of new energy.
- 2)Becoming an engineer not only means more opportunities in their career but will gain more money in their research.
- 3)The money distributed in energy research will double.
- 4)Especially engineers about new energy with the climate change.

A-1,4,3,2

- 1) They theorized that the 1.2 liters of green tea that is consumed by many Asians each day provides high levels of polyphenols and other antioxidants.
- 2) They pointed to what they called an "Asian paradox," which refers to lower rates of heart disease and cancer in Asia despite high rates of cigarette smoking.
- 3) In May 2006, researchers at Yale University School of Medicine weighed in on the issue with a review article that looked at more than 300 studies on the health benefits of green tea.
- 4) These compounds may work in several ways to improve cardiovascular health.
- 5) Specifically, green tea may prevent the oxidation of LDL cholesterol (the "bad" type), which, in turn, can reduce the build-up of plaque in arteries, the researchers wrote.

A-3,1,2,5,4

- 1) This presents a challenge to internet search companies, which have built a multibillion-dollar industry out of targeted advertising based on the information users reveal about themselves online.
- 2) However, that may be changing.
- 3) In the lobby of an internet search engine company's headquarters in California, computer screens display lists of the words being entered into the company's search engine.
- 4) Over the past year, a series of privacy gaffes and government attempts to gain access to internet users' online histories have, along with consolidation among online search and advertising groups, thrust the issue of internet privacy into the spotlight.
- 5) Although it says the system is designed to filter out any scandalous or potentially compromising queries, the fact that even a fraction of searches can be seen by visitors to the world's biggest search company is likely to come as a shock to internet users who think of web browsing as a private affair.
- 6) People generally believe that using a search engine is the equivalent of talking to a priest or a rabbi, "says Larry Pokémon, head of the Pokémon Institute, a privacy think-tank. "The public in general doesn't seem to fully understand how their privacy may be at risk.

A-3,5,6,2,4,1

- 1) So, while some nomadic hunter-gatherers may occasionally bag more food than they can consume in a few days, such a bonanza is of little use to them because they cannot protect it.
- 2) Hence nomadic hunter-gatherer societies have few or no such full-time specialists, who instead first appear in sedentary societies.
- 3) A consequence of a settled existence is that it permits one to store food surpluses, since storage would be pointless if one didn't remain nearby to guard the stored food.
- 4) But stored food is essential for feeding non-food-producing specialists, and certainly for supporting whole towns of them.

A-3,1,4,2

- 1) In the late 18th century, groups of skilled workers began to control the hiring of apprentices, and bargained with employers for better working conditions, but, as the movement grew, these trade unions tried to find ways of creating an alliance among themselves.
- 2) The first meeting of the Trades Union Congress took place in Manchester, at which thirty-four delegates represented well over a hundred thousand trade union members.

- 3) Trade unions were legalized in an Act of 1871, and by the end of the century more than one and a half million workers were members. Conditions for workers slowly improved over the years, but it wasn't until 1974 that legislation covering the health and safety of all employees was introduced.
- 4) Until the 19th century, workers were given little or no protection. Child labour was common, as were long hours worked in unsafe conditions for minimal pay.

A-4,1,2,3

- 1) One such example is a solar panel which could charge an LED lamp to create hours of light each day.
- 2) In addition to being fairly costly, these create smoke pollution and carbon emissions.
- 3) Therefore, alternatives are being investigated.
- 4) A result of not being connected to the electricity grid in rural areas of some countries means people light their homes using kerosene lamps.

A-4,2,3,1

- 1) The fear of criticism from colleagues, friends and family is the main factor that obstructs a change in their employment situation.
- 2) However, most of these workers would not consider career alternatives.
- 3) It seems that the lack of psychological reward is the reason for their dissatisfaction.
- 4) Despite the financial stability a high salary brings, research has shown that the majority of top earners are not happy in their jobs.
- 5) Interestingly, it is not the risk of a decrease in salary which prevents this move.

A-4,3,2,5,1

- 1) There you will see how women are consistently portrayed as weak and in need of male protection.
- 2) This acceptance that men were the superior gender had not developed by chance.
- 3) It had been the view that had been socialized into them from the moment of their birth.
- 4) This will become clear if you look at any girls' magazine or popular film of the period.
- 5) In the 1960s, the greatest obstacle for those who wanted to organize women was said to be women's conviction that they were actually inferior to men.

A-5,2,3,4,1

- 1) It is mainly due to the quality of the fabric which effectively resists salt water, direct sunshine and cold winds.
- 2) Traditionally they are navy blue and they are basically square in shape, without a curved armhole or inset sleeve.
- 3) Fishermen's knitted jerseys have always been recognizable in Britain by their colour and their shape.
- 4) This continuing popularity cannot just be put down to a fondness for tradition.
- 5) These navy jerseys are still a familiar sight on any quay or harbour in the land.

A-3,2,5,4,1

- 1)The Norwegian Government is doing its best to keep the oil industry under control. A new law limits exploration to an area south of the southern end of the long coastline; production limits have been laid down (though these have already been raised); and oil companies have not been allowed to employ more than a limited number of foreign workers.
- 2)But the oil industry has a way of getting over such problems, and few people believe that the Government will be able to hold things back for long.
- 3)Ever since the war, the Government has been carrying out a programme of development in the area north of the Arctic Circle. During the past few years this programme has had a great deal of success: Troms has been built up into a local capital with a university, a large hospital and a healthy industry.
- 4)As on Norwegian politician said last week: "We will soon be changed beyond all recognition."

A-1,2,4,3

- 1)We even used to read books and listen to music and broadcast talks occasionally. All that belongs to the past. Now all our free time is regulated by the goggle box. We rush home or gulp down our meals to be in time for this or that programme.
- 2)Whole generations are growing up addicted to the telly. Food is left uneaten, homework undone and sleep is lost.
- 3)We have even given up sitting at table and having a leisurely evening meal, exchanging the news of the day. A sandwich and a glass of beer will do- anything, providing it don't interfere with the programme. The monster demands and obtains absolute silence and attention.
- 4)Television hasn't been with us all that long, but we are already beginning to forget what the world was like without it. Before we admitted the one-eyed monster into our homes, we never found it difficult to occupy our spare time. We used to enjoy civilized pleasures. For instance, we used to have hobbies, we used to entertain our friends and be entertained by them, we used to go outside for our amusements to theatres, cinemas, restaurants and sporting events.
- 5)If any member of the family dares to open his mouth during a programme, he is quickly silenced.

A-4,1,3,5,2

- 1)In some countries where racial prejudice is acute, violence has so come to be taken for granted as a means of solving differences, that it is not even questioned.
- 2)There are countries where the white man imposes his rule by brute force; there are countries where the black man protests by setting fire to cities and by looting and pillaging.
- 3)What is really frightening, what really fills you with despair, is the realization that when it comes to the crunch, we have made no actual progress at all.
- 4)We may wear collars and ties instead of war-paint, but our instincts remain basically unchanged.
- 5)Important people on both sides, who would in other respects appear to be reasonable men, get up and calmly argue in favor of violence – as if it were a legitimate solution, like any other.

A-1,2,5,3,4

- 1)The shipping system required many changes and other technical innovations before the containers could be used.
- 2)This situation caused delays and created opportunities for damage that were only reduced when the shipping container was invented.
- 3)60 years ago, when businesses did not think of the distribution of goods as a single process, someone had to physically transfer every box each time goods were moved from one transport to another.
- 4)It was also necessary to build new roads and rail lines, requiring companies to invest millions.
- 5)While this invention promised companies a lot of benefits, there were many difficulties at first.

A-3,2,5,1,4

- 1)So a made-up word or compound word can be a good idea.
- 2)However, if your brand name reflects a key benefit of your service, such as 'Budget Car Rental', then you may want to consider translating it for other markets.
- 3)In other words, it's the one that's simple, easy to pronounce and has no particular meaning.
- 4)Ideally, the brand name you choose should be one that doesn't require translation.

A-4,3,2,1

- 1)He began by taking DNA samples but found that they all had a very different genetic make-up.
- 2)So he then looked at the East African way of life and found that as Children, 68 percent of all top Ethiopian or Kenyan runners ran, rather than walked, to school and back home, from the age of five onwards.
- 3)Dr Pitsiladis has spent years trying to identify why Ethiopian runners from the mountain region are so successful.
- 4)He tested those children and found that their bodies processed oxygen more efficiently than many adult elite athletes in Britain.
- 5)From this he concluded that there was nothing that could be identified genetically as East African.

A-3,1,5,2,4

- 1)At that time additives could reduce the noise but none effectively got rid of it, until Midgley realised that adding lead to petrol solved the problem completely.
- 2)Thomas Midgley started his career working on a major problem of the day, called 'engine knock', where fuel burnt in an uncontrolled explosion.
- 3)These two chemicals gradually ate away at the atmosphere and poisoned millions of people's health for 50 years until their true impact was finally identified.
- 4)He then turned to refrigerators and was asked to work on safer alternatives to the toxic cooling chemicals used at that time, coming up with CFC gas as a solution.

A-2,1,4,3

- 1) For example, psychologist Gayle Delaney told of a woman who dreamed she was swimming underwater.
- 2) One explanation of dreams holds that they reflect the ongoing conscious preoccupations of waking life, such as concerns over health.
- 3) To Delaney, the message was obvious: the woman was 'drowning' under the responsibilities of child care, and her husband wasn't 'getting the picture'.
- 4) The woman's eight-year-old son was on her back, his head above water. Her husband was supposed to take pictures, but wasn't, and she was starting to feel she was going to drown.
- 5) In this approach to dreaming, the symbols in a dream do not disguise its true meaning; they convey it.

A-2,1,4,3,5

- 1) First seen by government scientists in 1928, *Illacme plenipes*, 'the acme of plentiful legs', keeps such a low profile that for the rest of the 20th century the species was thought to be extinct.
- 2) For one thing, females have to up to 750 legs and males have more than 550.
- 3) Marek and colleagues' new paper, published Wednesday by the journal *Zookeys*, offers the first scientific description of *Illacme plenipes*, including insights into its strange anatomy.
- 4) The leggiest creature on Earth lives in California: it's a three-centimeter-long (1.2 inch) millipede with 750 legs.
- 5) Then University of Arizona entomologist Paul Marek spied one near Silicon Valley.

A-4,1,5,3,2

- 1) These organisms can survive in this extreme environment because of their unique genes and proteins.
- 2) The extremophiles that microbiologist Rick Cavicchioli and his team study love life extremely cold.
- 3) Understanding more about their DNA could help in the development of a variety of new technologies.
- 4) Extremophiles are organisms that thrive where other microbes (organisms that are small they're not visible to the human eye) don't dare venture, such as freezing lakes, the water core of nuclear reactors and toxic waste dumps.
- 5) They live at the bottom of Ace Lake in Antarctica, where there is no oxygen and the average temperature is 1°C.

A-4,2,5,1,3

- 1) Compassion is one of these.
- 2) Although truth and justice may be the most powerful impulses to show moral courage, there are others.
- 3) Tentatively it can be suggested that this is the main influence upon those who urge the abolition of capital punishment.
- 4) It is recognition of compassion's part that leads the upholders of capital punishment to accuse the abolitionists of sentimentality in being more sorry for the murderer than for his victim.

A-2,1,3,4

- 1) More likely, Ford Consul will be hub to hub with Renault or Mercedes, but rarely with bicycles made for two.
- 2) That the equipment of modern camping becomes yearly more sophisticated is an entertaining paradox for the cynic, a brighter promise for the hopeful traveler who has sworn to get away from it all.
- 3) Economy is one powerful motive for camping, since after the initial outlay upon equipment, or through hiring it, the total expense can be far less than the cost of hotels.
- 4) But, contrary to a popular assumption, it is far from being the only one, or even the greatest.'
- 5) The man who manoeuvres carelessly into his five shillings worth of space at one of Europe's myriad permanent sites may find himself bumping a Bentley.

A-3,4,5,1,2

- 1) It is useless to argue with the mind in this condition.
- 2) The stronger the will, the more futile the task.
- 3) And if this something else is rightly chosen, if it is really attended by the illumination of another field of interest, gradually, and often quite swiftly, the old undue grip relaxes and process of recuperation and repair begins.
- 4) A gifted American psychologist has said, 'Worry is a spasm of the emotion; the mind catches hold of something and will not let it go.'

A-4,1,2,3

- 1) In man's early days, competition with other creatures must have been critical.
- 2) But this phase of our development is now finished.
- 3) Indeed, we lack practice and experience nowadays in dealing with primitive conditions.
- 4) The last creature to compete with man was the mosquito. But even the mosquito has been subdued by attention to drainage and by chemical sprays.
- 5) I am sure that, without modern weapons, I would make a very poor show of disputing the ownership of a cave with a bear, and in this I do not think that I stand alone.

A-1,2,3,5,4

- 1) This explosion is already freeing vast numbers of people from their traditional bondage to nature, and now at last we have it in our power to free mankind once and for all from the fear which is based on want.
- 2) Now, for the first time, man can reasonably begin to think that life can be something more than a grim struggle for survival.
- 3) Science and technology have come to pervade every aspect of our lives and, as a result, society is changing at a speed which is quite unprecedented.
- 4) There is a great technological explosion around us, generated by science.

A-3,4,1,2

- 1)Indeed, the concept of free speech only exists in our modern society because when you are inside a community to such a degree that it is very difficult to conceive of anything really destructive.
- 2)It is well known that where the white man has invaded a primitive culture the most destructive effects have come not from physical weapons but from ideas.
- 3)Ideas are dangerous. The Holy office knew this full well when it caused heretics to be burned in days gone by.
- 4)It is only someone looking on from outside that can inject the dangerous thoughts.

A-2,3,1,4

- 1)No man ever looks at the world with pristine eyes.
- 2)Even in his philosophical probings he cannot go behind these stereotypes;
- 3)He sees it edited by a definite set of customs and institutions and ways of thinking.
- 4)His very concepts of the true and the false will still have reference to his particular traditional customs.

A-1,3,2,4

- 1)Mars is too dry and poor in oxygen, Venus far too hot, and so is Mercury, and the outer planets have temperatures near absolute zero and hydrogen-dominated atmospheres.
- 2)So the number of stars that we know exist is estimated at about 300 million million million.
- 3)But other suns, stars as the astronomers call them, are bound to have planets like our own, and as the number of stars in the universe is so vast, this possibility becomes virtual certainty.
- 4)Of all the planets in our solar system we are now pretty certain the Earth is the only one on which life can survive.
- 5)There are one hundred thousand million stars in our own Milky Way alone, and then there are three thousand million other Milky Ways, or Galaxies, in universe.

A-4,1,3,5,2

- 1)It was necessary, therefore, to invent instruments that neither slumbered nor slept.
- 2)Some devices were quite simple.
- 3)When a shock came it shook the rigid table upon which these stood.
- 4)One, for instance, consisted of rods of various lengths and thicknesses which would stand up on end like ninepins.
- 5)An earthquake comes like a thief in the night, without warning.

A-5,1,2,4,3

- 1)Two main techniques have been used for training elephants, which we may call respectively the tough and the gentle.
- 2)Apart from any moral considerations this is a stupid method of training, for it produces a resentful animal who at a later stage may well turn man-killer.
- 3)The former method simply consists of setting an elephant to work and beating him until he does what is expected of him.
- 4)The gentle method requires more patience in the early stages, but produces a cheerful, good-tempered elephant who will give many years of loyal service.

A-1,3,2,4

- 1)Perhaps most importantly, we look to the field of behavioral science for strategies that people can use to overcome those hurdles and to initiate lifestyle changes.
- 2)Many of us know what we should be doing to live healthily, yet many of us struggle to actually actively manage our health.
- 3)Changing existing behavior can be a difficult task, but with the help of these strategies new behaviors can become habitual, facilitating a long-term sustained healthy lifestyle.
- 4)In 'Easier Said than Done', we set out some of the reasons why we might find it hard to live in a healthy way, exercising, eating well, getting adequate sleep, and checking for early warning symptoms.

A-2,4,1,3

- 1)The Repeat Photography Project was born.
- 2)It was a light bulb moment: Why not use the old photos to create a timeline of the morphing glaciers, and add new photos every year?
- 3)Over the years, countless photos of the majestic park have been snapped, and many of those have become part of the park's official archive, spanning over a century.
- 4)In 1997 Lisa McKeon, a physical scientist with the United States Geological Survey who works in the park, came across a pair of historic photographs depicting the glaciers she studies.

A-4,3,2,1

- 1)Even the internal structure could be modified in new ways; different materials could be incorporated as the process goes along.
- 2)Ultimately, the researchers say, this approach could enable the design and construction of new kinds of buildings that would not be feasible with traditional building methods.
- 3)Structures built with this system could be produced faster and less expensively than traditional construction methods allow.
- 4)Researchers have developed a system that can 3-D print the basic structure of an entire building.

A-4,3,2,1

- 1)Sea level raise led to 36 thousand people died every year.
- 2)This number can be raised if sea level ceaseless goes up, scientists notified.
- 3)If sea level raises 1 meter, 168 million people will die all around the world.
- 4)According to the research, if sea level raises 50 centimeters, 86 million people will die.

A-1,2,4,3

- 1)The reason is that achieving agreement requires people to accept the reality of views different from their own and to accept change or compromise.
- 2)It is not just a matter of putting forward a set of facts and expecting the other person immediately to accept the logic of the exposition.
- 3)People need time to make this adjustment in attitude and react badly to any attempt to rush them into an agreement.
- 4)They (and probably you) have to be persuaded and helped to feel comfortable about the outcome that is eventually agreed.
- 5)In general, there is a tendency to underestimate how long it takes to discuss and resolve an issue on which two people initially have different views.

A-5,1,2,4,3

- 1)These conditions prevent him from doing his best mentally and physically.
- 2)It is natural to be healthy, but we have wandered so far astray that disease is the rule and good health the exception.
- 3)The average individual is of less value to himself, to his family and to society than he could be.
- 4)Of course, most people are well enough to attend to their work, but nearly all are suffering from some ill, mental or physical, acute or chronic.
- 5)His bad habits, of which he is often not aware, have brought weakness and disease upon him.

A-2,4,3,5,1

- 1)Such defenses from the country's most elite universities "do not hold water", Prof Ebdon said, as he urged the institutions to do more to widen their intakes.
- 2)Professor Les Ebdon, director of Fair Access to Higher Education, has said universities can no longer make excuses about the number of poorer students they take on.
- 3)England's most selective universities must do more to attract teenagers from disadvantaged backgrounds if they want to charge higher tuition fees, the country's fair access watchdog has warned.
- 4)In a statement issued yesterday, Prof Ebdon dismissed the argument from the country's most selective universities, which claim that young people from poorer backgrounds generally secure worse grades.

A-3,2,4,1

- 1) I have over and over again introduced ants from one of my nests into another nest of the same species; and they were invariably attacked, seized by a leg or an antenna, and dragged out.
- 2) The communities of ants are sometimes very large, numbering even to 500 individuals.
- 3) It is evident, therefore, that the ants of each community all recognize one another, which is very remarkable.
- 4) And it is a lesson to us that no one has ever yet seen quarrel between any two ants belonging to the same community.
- 5) However, it must be admitted that they are in hostility not only with most other insects, including ants of different species, but even with those of the same species if belonging to different communities.

A-2,4,5,1,3

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

A-3,5,1,4,2

- 1) The biggest drop was in the west, where sales fell 37 percent to an annual rate of 166,000.
- 2) Stephen Stanley, chief economist at RBS Greenwich Capital, said: "Builders will probably have to continue to work off bloated stocks of finished homes for most of 2007."
- 3) However, the Federal Reserve views the overhang of unsold homes as a cause for concern but remains curiously.
- 4) Americans bought far fewer new homes last month, according to government data released on Wednesday that showed sales fell at the fastest rate in 13 years.
- 5) House prices also eased as the median cost of a new home fell 2.1 percent from a year ago to \$239,800.
- 6) The pace of sales fell to 937,000 from a rate of 1.1m the previous month, while inventories of unsold homes stood at 537,000.

A-4,5,6,1,2,3

- 1) These include Commitment devices, where we make it very unattractive to not follow through on an intention.
- 2) Perhaps most importantly, we look to the field of behavioral science for strategies that people can use to overcome those hurdles and to initiate lifestyle changes.
- 3) Changing existing behavior can be a difficult task, but with the help of these strategies new behaviors can become habitual, facilitating a long-term sustained healthy lifestyle
- 4) In 'Easier Said than Done', we set out some of the reasons why we might find it hard to live in a healthy way, exercising, eating well, getting adequate sleep, and checking for early warning symptoms.

A-4,2,1,3

MORE RE-ORDER PARAGRAPHS (ALREADY IN THE CORRECT ORDER)

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

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

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

- 1) A review is a survey of what you have covered.
- 2) It is a review of what you are supposed to accomplish not what you are going to do.
- 3) Rereading is an important part of the review process.

4) Reread with the idea that you are measuring what you have gained from the process.

- 1) Your first draft is complete, but your paper is far from finished.
- 2) The next step is to revise your paper: strengthen the content.
- 3) Start this at least a week before your paper is due.
- 4) In fact, you don't need to wait until you have a complete first draft to start revising.
- 5) You can revise individual paragraphs as you finish them as well.

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

- 1) Aboard the ship Discovery, Hudson left England in April 1610.
- 2) He and his crew, which again included his son John and Robert Juet, made their way across the Atlantic Ocean.
- 3) After skirting the southern tip of Greenland, they entered what became known as the Hudson Strait.
- 4) The exploration then reached another of his namesakes, the Hudson Bay.

- 1) Don't expect a straightforward answer from Chanan Tigay about the authenticity or even the existence of what was promoted as the earliest version of the fifth and final book of the Jewish Torah, known to Christians as the Book of Deuteronomy in the Old Testament.
- 2) As an author who spent years trying to unravel a juicy mystery and get it down on paper, Tigay wants you to read his book, "The Lost Book of Moses: The Hunt for the World's Oldest Bible," to find the answer.
- 3) But at a talk on Wednesday, the writer, journalist, and fellow offered listeners an enticing peek, describing how he landed on the story of the mysterious manuscript and about his years trying to track down the document.
- 4) From the author's description, it was a wild, Indiana Jones-type ride that included a competition to find the relic, false starts, dead ends, trips to faraway places, and an ultimate breakthrough close to home.

- 1) International Economics: Theory and Policy is a proven approach in which each half of the book leads with an intuitive introduction to theory and follows with self-contained chapters to cover key policy applications.
- 2) The Eighth Edition integrates the latest research, data, and policy in hot topics such as outsourcing, economic geography, trade and environment, financial derivatives, the subprime crisis, and China's exchange rate policies.

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- 4) Students get instant, targeted feedback, and instructors can encourage practice without needing to grade work by hand. For more information visit MyEconLab.

- 1) Copernicus probably hit upon his main idea sometime between 1508 and 1514. For years, however, he delayed publication of his controversial work, which contradicted all the authorities of the time.
- 2) The historic book that contains the final version of his theory, *De revolutionibus orbium coelestium libri vi* ("Six Books Concerning the Revolutions of the Heavenly Orbs"), did not appear in print until 1543, the year of his death.
- 3) According to legend, Copernicus received a copy as he was dying, on May 24, 1543.
- 4) The book opened the way to a truly scientific approach to astronomy. It had a profound influence on later thinkers of the scientific revolution, including such major figures as Galileo, Johannes Kepler, and Isaac Newton.

- 1) Palau and his colleagues wanted to see if any trends had emerged from the research to date concerning how video games affect the structure and activity of our brains.
- 2) They collected the results from 116 scientific studies, 22 of which looked at structural changes in the brain and 100 of which looked at changes in brain functionality and or behavior.
- 3) The studies show that playing video games can change how our brains perform, and even their structure.
- 4) For example, playing video games affects our attention, and some studies found that gamers show improvements in several types of attention, such as sustained attention or selective attention.

- 1) In 1997 Lisa McKeon, a physical scientist with the United States Geological Survey who works in the park, came across a pair of historic photographs depicting the glaciers she studies.
- 2) Over the years, countless photos of the majestic park have been snapped, and many of those have become part of the park's official archive, spanning over a century.
- 3) It was a light bulb moment: Why not use the old photos to create a timeline of the morphing glaciers, and add new photos every year?
- 4) The Repeat Photography Project was born

- 1) A common mistake is to ignore or rule out data which do not support the hypothesis.
- 2) Ideally, the experimenter is open to the possibility that the hypothesis is correct or incorrect.
- 3) Sometimes, however, a scientist may have a strong belief that the hypothesis is true (or false), or feels internal or external pressure to get a specific result.

- 4) In that case, there may be a psychological tendency to find "something wrong", such as systematic effects, with data which do not support the scientist's expectations, while data which do agree with those expectations may not be checked as carefully.
- 5) The lesson is that all data must be handled in the same way.

- 1) When Vijay Govindarajan and Christian Sarkar wrote a blog entry on Harvard Business Review in August 2010 mooting the idea of a "\$300- house for the poor", they were merely expressing a suggestion.
- 2) Of course, the idea we present here is an experiment," wrote Prof Govindarajan, a professor of international business at the Tuck School of Business at Dartmouth and Mr Sarkar, a marketing consultant who works on environmental issues - an almost apologetic disclaimer for having such a "far-out" idea.
- 3) Who could create a house for \$300 and if it was possible, why hadn't it been done before?
- 4) Nonetheless, they closed their blog with a challenge: "We ask chief executives, governments, NGOs, foundations: Are there any takers?"

- 1) Researchers in the field of artificial intelligence have long been intrigued by games, and not just as a way of avoiding work.
- 2) Games provide an ideal setting to explore important elements of the design of cleverer machines, such as pattern recognition, learning and planning.
- 3) They also hold out the tantalising possibility of fame and fortune should the program ever clobber a human champion.
- 4) Ever since the stunning victory of Deep Blue, a program running on an IBM supercomputer, over Gary Kasparov, the world chess champion, in 1997, it has been clear that computers would dominate that particular game.
- 5) Today, though, they are pressing the attack on every front.

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

- 1) Back in 2008 a small company in San Francisco called Airbnb had a dream.
- 2) People with spare bedrooms would welcome strangers into their homes and share restaurant recommendations with them for a small fee.
- 3) Fast forward to 2016 and the big, successful Airbnb is considered a mainstay of what we now call "the sharing economy".
- 4) It is also the business that defines the mentality of the millennial.

- 1) A Technology for recording brainwaves in wild animals awakens a more sophisticated understanding of the function of sleep. Studies using miniature sleep recording devices known as neurologgers have already challenged several long-held beliefs about the sleeping habits of sloths and birds.
- 2) Three toed sloths, for example, sleep far less than once thought.
- 3) And male sandpipers can go almost entirely without sleep during the three-week breeding season, helping maximize success at that time.

4) Now John Lesku of La Trobe University in Melbourne and his colleagues are using neurologgers to investigate whether light pollution interferes with the circadian rhythms of tammar wallabies in Australia.

1) History is selective.

2) What history books tell us about the past is not everything that happened, but what historians have selected.

3) They cannot put in everything: choices have to be made.

4) Choices must similarly be made about which aspects of the past should be formally taught to the next generation in the shape of school history lessons.

1) Humans are able to make sense of sounds at a much higher pitch than previously thought.

2) A note has a fundamental tone- the pitch we hear- and a series of overtones that occur at higher frequencies. Overtones are what give a sound its timbre, and enable us to distinguish an oboe from a trumpet from its sound alone.

3) Previous studies have shown that humans are unable to recognise melodies whose notes have a fundamental tone above 5 kilohertz. It was thought that, at frequencies this high, the rapidly cycling sound wave was too fast for the auditory nerve to cope with.

4) To test this theory, Andrew Oxenham and his colleagues at the University of Minnesota in Minneapolis asked a group of six students whether two four-note melodies were identical or not. As in previous studies, the volunteers could not recognise melodies with fundamental tones above 5 kHz.

5) The team then took a fundamental tone pitched below 5 kHz and digitally filtered it to leave just the overtones above 6 kHz. Surprisingly, the volunteers were able to distinguish these melodies.

READING FILL IN THE BLANKS

Police fired tear gas and arrested more than 5,000 passively resisting protesters Friday in an {attempt} to break up the largest antinuclear demonstration ever {staged} in the United States. More than 135,000 demonstrators confronted police on the construction site of a 1,000-megawatt nuclear power plant {scheduled} to provide power to most of southern New Hampshire. Organizers of the huge demonstration said, the protest was {continuing} despite the police actions. More demonstrators were arriving to keep up the pressure on state authorities to cancel the project.

Options: staged, initiate, acted, ceased, attempt, continuing, scheduled

Case studies on the deformation of serpentinite tunnels are not hit in the Web of Science database, {although} severe deformation has been {experienced} at soft rock tunnels worldwide, and many papers have been published. The lack of publication may indicate that tunnel excavation in serpentinite is difficult, and thus excavation without professional guidance should be {avoided}.

Options: avoided, although, experienced, experimented, despite, escaped

Seminars are not designed to be mini-lectures. Their educational {role} is to provide an opportunity for you to discuss interesting and difficult aspects of the course. This is founded on the {assumption} that it is only by actively trying to use the knowledge that you have acquired from lectures and texts that you can achieve an adequate understanding of the subject. If you do not understand a point, it is highly {unlikely} that you will be the only person in the group in that position, you will invariably be undertaking a {service} for the entire group if you come to the seminar equipped with questions on matters which you feel you did not fully understand. The seminar is to introduce and {provoke} discussion.

Options: part, provoke, unlikely, job, theory, service, role, assumption, impossible, stir

Studies of pine martens in Scotland have shown that the diet varies {seasonally} with small mammals' berries (in late summer/autumn) and small birds being the main foods. Recent work on a plantation has shown that martens {establish} their home ranges in areas dominated by forests and {dense} shrubs. Within home ranges, martens utilize areas of grassy vegetation within the forest which are typically associated with *Microtus* voles, for which a strong selective {preference} over other small mammals is shown.

Options: establish, lately, decision, seasonally, preference, dense, complicated

It sounds like something out of a science fiction movie - or nightmare millions of honeybees {suddenly} dying off, their bodies never found. Scientists have {named} the phenomenon 'Colony Collapse Disorder', but they aren't {united} on the reason. Theories abound as to the {cause} of the mass die-off, ranging from the unlikely (cellphones affecting bees' navigational abilities) to the more {plausible} though still debated (widespread pesticide use).

Options: deliberating, suddenly, named, plausible, cause, possibility, authored, united

The narrative of law and order is located fundamentally at the level of individual {guilt} and responsibility. Criminal acts are seen as individual issues of personal responsibility and culpability, to which the state responds by way of policing, prosecution, {adjudication} and punishment. This is but one level at which crime and criminal {justice} can be analyzed. The problem is that so often analysis ends there, at the level of individual action, characterized in terms of responsibility, guilt, evil. In few other areas of social life does individualism have this hold? To take but one instance, it would be {absurd} to restrict analysis of obesity, to individual greed. It should similarly be widely seen as absurd to restrict analysis of criminal justice issues to the culpability of individuals.

Options: adjudication, justice, considerate, award, image, guilt, absurd, feedback

A surprising number of writers, even those who have thought of their writing as "self-expression," have sought a {freedom} from the tyranny of subjectivity, echoing Goethe's claim that "Every healthy effort is directed from the {inward} to the outward world." From time-to-time others have risen to defend commitment, engagement, involvement. But, at least

until {recently}, the predominant demand in this {century} has been for some sort of objectivity.

Options: pressure, extension, freedom, character, then, inward, century, recently

What is a country, and how is a country defined? When people ask how many countries there are in the world, they expect a simple answer. After {all}, we've explored the whole planet, we have international travel, satellite navigation and plenty of global organizations like the United Nations, so we {should} really know how many countries there are! However, the answer to the question varies according to whom you ask. Most people say there are 192 countries, but others point out that there could be more like 260 of them. So why isn't there a straightforward answer? The problem {arises} because there isn't a universally agreed definition of 'country' and because, for political reasons, some countries {find} it convenient to recognize or not recognize other countries.

Options: fear, should, arises, all, it, find, never, differs

Of the more than 1,000 bat species worldwide, 22 are {native} to North America. And while there are no pollinator bats in our area, gardeners should {champion} those that do live here, because they're insectivorous. These bats {consume} moths, beetles and mosquitoes, and can eat up to 500 mosquito sized insects per hour. They also protect gardens and crops from such {pests} as cucumber beetles, cutworms and leafhoppers.

Options: consume, champion, preys, objective, besiege, pests, native

The ruins of the South Fremantle Power Station have stood empty since 1985, home only to urban explorers and street {artists}. Opened in 1951, the power station was once a pillar of progress for the expanding energy {demands} of Perth. Here it stood proud and strong for 34 years, supplying energy to its surrounding metropolis until 1985 when it was deemed to no

longer be worth the {money}. The doors were shuttered, and the plant's four tall chimney stacks were demolished, leaving the rest of the plant to rot by the sea.

Options: ratings, usage, demands, collectors, artists, money

Green spaces {contribute} significantly to a {reduction} of soil and aerial temperatures during spells of hot weather, so contributing to human wellbeing. In the garden {context}, there is, however, little information as to what extent various types of plants {differ} in their cooling potential and how certain planting combinations may maximize cooling under a scenario of {low} rainfall and minimal water inputs.

Options: addition, focus, background, low, differ, context, massive, reduction, contribute

An Australian sheep farmer paid his own unique {tribute} to his beloved aunt. Due to pandemic {restrictions}, Ben Jackson was unable to attend his aunt Deb_s funeral that took place 400 kilometers away. He {scattered} grain in the shape of a heart in a field, so that thousands of sheep would come into the field and fill up the vast shape. Like many families {separated} during the pandemic, Jackson wasn't able to say goodbye to a loved one, and he felt hopeless.

Options: tribute, budget, restrictions, scattered, allowances, separated, harvested

The morality of the welfare state depends on contribution and responsibility. Since some people don't contribute and many are irresponsible, the choices of those who do contribute and are responsible are either to {tolerate} the free riders, refuse to pay for the {effects} of their irresponsibility or trust the state to {educate} them.

Choices: forge , lack , tolerate , affects , encroach , effects , educate

Can dogs tell when we are happy, sad or angry? As a dog owner, I feel {confident} not only that I can tell what kind of {emotional} state my pets are in, but also that they respond to my emotions. Yet as a hard-headed scientist, I try to take a more {rational}and pragmatic view. These {personal} observations seem more likely to result from my desire for a good relationship with my dogs.

Choices: emotional , confidential , personal , rational , confident , communal , pathological

Mapping software works with your phone's GPS for the location and then the in-built {compass} finds north, adjusting to the direction you're facing and {pointing} the way. But that's not easy because there are two 'norths'. There's {true} north - which is the direction of the North Pole and which reliably stays put - and there's {magnetic} north which, thanks to the flowing layer of molten iron in the Earth's outer {core}, has a habit of moving around.

Choices: pole , gadget , pointing , spherical , core , sticking , compass , true , magnetic

I use the word civilization now for the first time, because before the Bronze Age there is nothing that we would define as civilization. Civilization involves the establishment of permanent dwelling areas that we call {cities} as opposed to villages. Agricultural villages will have existed all over the place in the late Stone Age, in the Neolithic Period, as it is known. But there is a difference and the critical difference is that a city contains a number of people who do not provide for their own support. That is to say, they don't {produce} food. They need to acquire it from somebody else. Instead, they do various things like governing and are priests, and are bureaucrats, and are {engaged} in other nonproductive activities that depend upon others to feed them. That's the narrowest definition of cities.

Choices: cities , consume , involved , residence , engaged , produce

As the economic depression deepened in the early 30s, and as farmers had less and less money to spend in town, banks began to fail at {alarming} rates. During the 20s, there was an average of 70 banks failing each year nationally. After the crash during the first 10 months of 1930, 744 banks closed down _ 10 times as many. In all, 9,000 banks failed during the {decade} of the 30s. By 1933, depositors saw \$140 billion {disappear} through bank failures.

Choices: time , disappear , decade , rising , alarming

Spending too much time in the concrete jungle is bad for city {dwellers}' health and could have potentially catastrophic {consequences} for the environment, conservation biologist Richard Fuller will argue during a seminar at the University of Canberra today. Dr Fuller, {lecturer} in biodiversity and conservation at the University of Queensland and CSIRO, will explore the fact that although there's evidence that the well-being of humans increases with {exposure} to our surrounding biodiversity, the {opportunities} for people to experience nature are declining rapidly in the modern world.

Choices: consequences , opportunities , problems , meaning , dwellers , lecturer , exposure , researchers , addition , colleague

Barrie Finning's, a professor at Monash University's college of pharmacy in Melbourne, and PhD student Anita Schneider, recently tested a new wrinkle cure. Twice daily, 20 male and female

volunteers applied a liquid containing Myoxinol, a patented {extract} of okra (*Hibiscus esculentus*) seed, to one side of their faces. On the other side they applied a similar liquid without Myoxinol. Every week for a month their wrinkles were tested by self-assessment, photography and the size of depressions made in silicon moulds. The results were impressive. After a month the {depth} and number of wrinkles on the Myoxinol-treated side were reduced by approximately 27 per cent. But Finnin's research, commissioned by a cosmetics company, is unlikely to be published in a scientific {publication}. It's hard to even find studies that show the active ingredients in cosmetics penetrate the skin, let alone more {comprehensive} research on their effects. Even when {rigorous} studies are commissioned, companies usually control whether the work is published in the traditional scientific literature.

Choices: depth , extract , publication , important , comprehensive , body , width , review , solid , rigorous , tract

Walt Disney World has become a pilgrimage site partly because of the luminosity of its crosscultural and marketing and partly because its {utopian} aspects appeal powerfully to real needs in the capitalist {society}. Disney's marketing is unique because it captured the symbolic essence of {childhood} but the company has gained access to all public shows, comic books, dolls, apparels, and {educational} film strips, which all point to the parks and each other.

Choices: theoretical , utopian , lifetime , comedy , society , unrealistic , childhood , educational

And if the voice of an animal is not heard as message but as art, interesting things start to happen: Nature is no longer an alien {enigma} but something immediately beautiful, an exuberant {opus} with space for us to join in. Bird melodies have always been called songs for a {reason}.

Choices: opus , exuberant , enigma , bearing , season , reason , accuse

She transformed beauty into big business by cultivating classy sales methods and giving away samples. Leonard Lauder, chief executive of the company his mother founded, says she always thought she 'was growing a nice little business.' And that it is. A little business that {controls} 45% of the cosmetics market in U.S. department stores. A little business that sells in 118 countries and last year grew to be \$3.6 billion big in sales. The Lauder family's shares are worth more than \$6 billion. But early on, there wasn't a burgeoning business; there weren't houses in New York, Palm Beach, or the south of France. It is said that at one point there was one person to answer the telephones who {changed} her voice to become the shipping or billing department as needed. You more or less know the Estee Lauder story because it's a chapter from the book of American business folklore. In short, Josephine Esther Mentzer, daughter of immigrants, lived above her father's hardware store in Corona, a section of Queens in New York City. She started her {enterprise} by selling skin creams concocted by her uncle, a chemist, in beauty shops, beach clubs and resorts. No doubt the potions were good - Estee Lauder was a quality fanatic - but the sales lady was better. Much better. And she simply outworked everyone else in the cosmetics industry. She {stalked} the bosses of New York City department stores until she got some counter space at Saks Fifth Avenue in 1948. And once in that space, she utilized a personal selling approach that proved as {potent} as the promise of her skin regimens and perfumes.

Choices: stalked , ruthless , enterprise , raised , controls , maintains , changed , potent

An academic argument {asserts} a claim and supports that claim with evidence. The goal of an argument is to convince readers that the writer's position is reasonable, {valid}, and worthy of consideration. Therefore, an argumentative thesis statement needs to be not only clear and focused, but also {debatable}, assertive, and reasoned. Additionally, an argumentative thesis must be able to be supported with evidence.

Choices: valid , religious , asserts , debatable , unpolitical , files

Management is everywhere. Any time people work to achieve a goal, they are {engaging} in management. At least as {far} back as the building of pyramids in ancient Egypt or Mesoamerica, people have used principles of management to achieve goals. Today, organizations of all types use management techniques to plan and {organize} their activities.

Choices: engaging , specializing , enhance , far , reported , organize

Society and culture have great {impacts} on the business environment. These factors include demographics like population growth, age distribution, and attitudes toward safety and health {consciousness}. For example, {rising} rates of obesity have forced management to look closely at marketing campaigns in giant food corporations such as Nestle and Kraft Foods.

Choices: normal , department , impacts , demands , rising , consciousness

Supplier bargaining power is another force that shapes the {competitive} measure of an industry because it limits the ability of the seller to make a profit. Powerful suppliers can {pressure} buyers by raising prices, {lowering} quality, or reducing the availability of the supply.

Choices: lowering , enhancing , pressure , competitive , protective , assist

Good managers know that employees are the company's most valuable {assets}. Employee development is the process by which employees become even more valuable by building their skills and expanding their {capabilities}. The better their skills, the more likely it is that employees will succeed in their jobs and {progress} in their careers.

Choices: process , progress , capabilities , companies , properties , assets

When everyone in a corporation shares the same values and goals, it's possible to create a culture of {mutual} respect, collaboration, and support. Companies that have a strong, supportive culture are more likely to attract highly {qualified}, loyal employees who understand and work toward the company's best {interests}.

Choices: interests , configurable , deals , qualified , mutual , public

Although many of the principles described by twentieth century management researchers are still in use, they are being {applied} in widely different ways. Building on the {advances} in technology and social psychology, management theory has become more {specialized} to meet the continually {arising} challenges organizations face by operating in a global economy.

Choices: sensitive , specialized , arising , applied , updating , degree , advances

Globally, at least 1 billion people have a near or distance vision impairment that could have been prevented or has yet to be {addressed}. In the {absence} of timely detection, reduced or absent eyesight can have long-term personal and economic effects. It often affects quality of life through lower {productivity}, decreased workforce participation and high rates of depression.

Choices: determined , cost , addressed , case , productivity , absence

Diabetes is a chronic, metabolic disease {characterized} by elevated levels of blood sugar, which leads over time to serious damage to the heart, blood vessels, and so on. The most common is type 2 diabetes which {occurs} when the body becomes resistant to insulin or doesn't make enough insulin. For people living with diabetes, access to {affordable} treatment is critical to their survival.

Choices: occurs , characterized , affordable , powered , indicates , dental

Globally, 1 in 3 people today are estimated to be living with a health condition that would benefit {from} rehabilitation. People are living longer but with more {chronic} disease and disability. Currently, many people are living with mid- and long-term {consequences} of COVID-19 and may be in need of rehabilitation to support their recovery from the disease.

Choices: preventative , from , chronic , in , consequences , commitment

The impacts of hearing loss are broad and can be {profound}. They include a loss of the ability to communicate with others and {delayed} language development in children, which can lead to social isolation, loneliness and frustration, particularly among older people with hearing loss. Many areas lack {sufficient} accommodations for hearing loss, which effect academic performance and options for employment.

Choices: delayed , included , luxury , profound , additional , sufficient

The profile and causes of hearing loss vary greatly across and within regions, as does the availability of {infrastructure} and resources to address it. It is important that each country develop its own {strategic} plan to deal with hearing loss and its causes. A national ear and hearing care strategy should seek to reduce the {prevalence}, incidence and impact of hearing loss in the community.

Choices: prevalence , income , strategic , infrastructure , mortality , economic

Biological and toxin weapons are either microorganisms produced by living organisms that are produced and {released} deliberately to cause disease and death in humans, animals or plants. Biological weapons form a subset of a larger class of weapons sometimes referred to as unconventional weapons or weapons of mass {destruction}. The use of biological agents is a serious {concern}, and the risk of using these agents in a terrorist attack is thought to be increasing.

Choices: complication , destruction , distributed , concern , distribution , released

Plague is an infectious disease and is {transmitted} between animals via their fleas. Humans can also be contaminated by the bite of infected fleas, through direct {contact} with infected materials, or by inhalation. Although plague has been responsible for widespread pandemics throughout history, today it can be easily treated with antibiotics and the use of standard {preventative} measures.

Choices: contacted , legislative , transmitted , contact , access , preventative

Seasonal influenza is an acute respiratory infection caused by influenza viruses which {circulate} in all parts of the world. It represents a year-round disease {burden}. It causes illnesses that range in severity and sometimes lead to hospitalization and death. Most people recover from fever and other symptoms within a week without requiring medical attention. However, influenza can also cause {severe} illness or death.

Choices: severe , circulate , burden , locate , prevention , occupational

The term “excess deaths” describes deaths {beyond} what would have been expected under “normal” conditions. It captures not only confirmed deaths, but also COVID-19 deaths that were not correctly diagnosed and reported as well as deaths {attributable} to the overall crisis conditions. This provides a more {comprehensive} and accurate measure when compared with confirmed COVID-19 deaths alone.

Choices: comprehensive , corrective , through , attributable , necessary , beyond

The influenza virus is constantly mutating, essentially putting on ever-changing disguises, to {evade} our immune systems. When a new virus {emerges} that can easily infect people and be spread between people, it can turn into a pandemic, but we do not know when it will happen, what virus strain it will be and how {severe} the disease will be.

Choices: emerges , powerful , evade , infects , soften , severe

Extreme heat and extreme drought in Baja California are pushing some winemakers to {explore} a very old and very climate-adaptable wine varietal. The results are delicious: they are not just surviving but {thriving}. Grapes left on the vine after the recent harvest are still {plump} and sweet.

Choices: thriving , plump , innocent , feature , explore , functioning

On many summer days, photosynthesis by trees and gases in New York City absorbs all the greenhouse gas emissions {produced} by cars, trucks, buses, and even more, according to a new study. The findings show the importance of greenery for cities as part of their efforts to {tackle} their emissions. This includes scattered trees and lawns along sidewalks and pavements, which {add} up to produce a strong carbon-absorbing effect.

Choices: add , pop , transported , tackle , produced , estimate

Context clues {consist} of all the words and phrases that are near a word. Often, you can define words based on the other words around them. If you're reading a lot of material, you don't have time to look up {individual} words. Reading words in context helps {ensure} a high level of focus, whereas breaking your {concentration} to lookup words is distracting.

Choices: promise , consist , common , constitute , concentration , ensure , individual

Urbanization has drastically {altered} landscapes around the world, changing how animals {interact} with nature, creating "heat islands" with higher temperatures, and {affecting} biodiversity — because although we consider cities to be human residences, many other creatures are also {inhabiting} the urban areas along with us.

Choices: inhabiting , affecting , curtailed , altered , interact , experience , including

Visions from nightmares can also creep like dark shadows into the light of the next day, {disrupting} a person's ability to focus and think. Mood {plummets}, and anxiety rises, which can lead to a diagnosis of nightmare disorder, a sleep condition that {affects} about 4% of adults.

Choices: consents , affects , plummets , disrupting , controls , reasoning

Many animals eat their parents, siblings, and {offspring} for different reasons. Cannibalism has a bad rap, but the more scientists learn about it, the more they {discover} it's a vital part of nature. The {practice} of eating one's own kind is wildly common across the animal kingdom. It's most often observed in invertebrates and fish, but cannibalism {occurs} in every major animal group.

Choices: offspring , occurs , enemies , describes , criticism , discover , appear , practice

Damage from unsafe listening can {aggravate} over the life course. A study discovered that young people regularly listen to music at unsafe noise levels and concluded that {promoting} safer listening practices was urgent. Sensory cells and structures in the ear can become {fatigued} from being exposed to sound at excessive volumes. If left unchecked for too long, it can cause {permanent} damage, such as deafness.

Choices: accounting , aggravate , permanent , promoting , dependent , fatigued , preside

In fact, a meta-analysis concluded that children living in homes with gas stoves were 42% more likely to have asthma symptoms and were 24% more likely to {develop} lifelong asthma than those living

in homes with electric stoves and ovens. During 2019 alone, almost two million cases worldwide of new childhood asthma were {estimated} to be due to nitrogen dioxide pollution — and nitrogen dioxide is a well-known pollutant { released} by gas stoves.

Choices: needed , treat , develop , released , determined , estimated

If a couple does divorce, there are specific {considerations} they should take into account to help their children {cope}. Parents should {reassure} their children that both parents will continue to love them and that the divorce is in no way the children's fault.

Choices: attend , objectives , adopt , cope , reassure , considerations

Sunlight travels through space at nearly 300,000 kilometers per second. When sunlight {strikes} the Earth, it is mostly reflected or absorbed. Reflected light {bounces} back into space while absorbed light is the source of energy that {drives} processes in the atmosphere, hydrosphere, and biosphere.

Choices: derives , faints , bounces , drives , irritates , strikes

From the gentlest of breezes to the raging winds of a category-five hurricane, the atmosphere is constantly in {motion}. The energy for all that movement comes from sunlight that is {absorbed} and re-radiated by the surface of the Earth and the rotation of the Earth. Atmospheric circulation, along with ocean circulation, {distributes} heat across the entire surface of the Earth, bringing us our daily weather and {shaping} regional climates.

Choices: debates , shaping , absorbed , motion , business , observing , allowed , distributes

As children become adolescents, they usually begin spending more time with their peers and less time with their families, and these peer {interactions} are increasingly unsupervised by adults. Children's notions of friendship often focus on shared activities, { whereas} adolescents' notions of friendship increasingly focus on intimate {exchanges} of thoughts and feelings.

Choices: encounters , wherein , evaluations , interactions , whereas , exchanges

As the game {embraces} the digital world, chess has continued to grow and is now eagerly consumed by all generations. Meanwhile, some of the sport's very best players have {amassed} huge social media followings by streaming games online. The game is so {embedded} in the public's consciousness that there is now even such a thing as a chess influencer.

Choices: embedded , contributes , amassed , defined , refrained , embraces

A deliberate event is an act or threat {involving} the intentional release of hazardous substances to cause harm. Deliberate events cover a wide {spectrum} of intent and public health consequences. They can be on a small scale, such as {contaminating} a few samples of a product to extort money from a retailer.

Choices: spectrum , authorizing , treating , history , involving , contaminating

The weathering of rocks {occurs} through both physical and chemical processes. Physical weathering is the breakdown of rock into smaller pieces without altering the chemical {composition} of the rock. Chemical weathering occurs when the breakdown of rock {results} from chemical change in the rock, or the when the rock is dissolved away. Plant growth, aside from physically breaking up rocks, can also change the environmental chemistry {contributing} to chemical weathering.

Choices: occurs , excludes , deprivation , results , comparing , contributing , composition

Parents lose the most sleep during the first three months with a new baby, with mothers losing about an hour of sleep each night, and fathers losing a {disproportionate} 13 minutes. This {decline} in sleep quality and quantity for adults {persists} until the child is about six years old.

Choices: persists , reflects , decline , dispassionate , stage , disproportionate

In Boston labs, old, blind mice have {regained} their eyesight, developed smarter, younger brains and built healthier muscle and kidney tissue. On the flip side, young mice have prematurely aged, with {devastating} results to nearly every tissue in their bodies. This experiment shows aging is a {reversible} process, capable of being driven forwards and backwards at will.

Choices: reversible , empirical , devastating , competitive , regained , corrected

Most people are aware that excessive and chronic drinking can {severely} impact their physical and mental health, but the exact effects will depend on the amount of alcohol {consumed} and how frequently someone drinks it. This can lead to {impaired} coordination, slurred speech, slowed reflexes and blackouts. Heavy drinking can lead to other problems such as sleep {disturbances}.

Choices: disturbances , signaled , severely , impaired , consumed , communicably , property

Although compared to {conventionally} grown vegetables, organic food items are less likely to have pesticide residues, organic produce can also lead to health risks. Leafy greens are particularly {susceptible} to fecal contamination due to their {proximity} to the ground and the likelihood of humans consuming them without cooking.

Choices: conventionally , related , susceptible , support , allegedly , proximity

Adolescence is a time when people become independent individuals, {forge} new relationships, develop social skills and learn behaviours that will {last} the rest of their lives. It can also be one of the most challenging periods. In this turbocharged neurological, physical, and emotional {transition} from childhood to adulthood, young people face a {range} of health risks.

Choices: last , state , transition , involvement , complete , range , forge

Air pollution is all around us. Microscopic pollutants in the air can {slip} past our body's defences, {penetrating} deep into our respiratory and circulatory system, damaging our lungs, heart and brain. Air pollution is closely linked to climate change - the main driver of climate change is fossil fuel combustion which is also a major {contributor} to air pollution.

Choices: contributor , contact , slip , flashing , penetrating , breakthrough

Most of Earth's internal heat is {left} over from when our planet formed, about 4.5 billion years ago. Earth and the other planets in the solar system first began to take shape as countless smaller bodies collided and {clumped} together. The energy of those violent collisions {transformed} into heat energy.

Choices: played , clumped , left , transformed , introduced , backed

A chemical incident is the uncontrolled release of a toxic substance, potentially {resulting} in harm to public health and the environment. Chemical incidents can {occur} as a result of natural events, or as a result of accidental or intentional events. These incidents can be sudden and acute or have a slow {onset} when there is a 'silent' release of a chemical. They can also range from small releases to full-scale major {emergencies}.

Choices: onset , categories , occur , pitch , emergencies , containing , concur , resulting

Approximately 75% of the Earth's surface is {covered} by liquid water and ice. Water is {constantly} moving between the atmosphere, land, and ocean, shaping our planet's climate and ecosystems. Human population growth has increased the {extraction} and use of water, which in turn reduced freshwater {availability} in many regions, both for human consumption and for ecosystems.

Choices: covered , constantly , redundantly , edited , susceptibility , extraction , availability

Protecting and improving the health of children is of {fundamental} importance. Over the past several decades, we have seen dramatic {progress} in improving the health and reducing the mortality rate of young children. However, a great deal of work {remains} to further improve the health outcomes for children. Many child deaths are due to conditions that could be easily {prevented} or treated given access to health care and improvements to their quality of life.

Choices: valid , fundamental , remains , progress , deduction , removed , prevented , determines

A higher potassium intake has also been {associated} with increased bone density and bone strength. While researchers are {unclear} as to why, one theory is that potassium helps to neutralize acids that naturally occur when eating animal protein and sodium. Without {adequate} potassium to neutralize these acids, calcium is pulled from the bones to do the job instead, and without enough calcium, bones become weaker.

Choices: associated , adequate , conclusive , divided , unclear , harmonious

Clinical trials are a type of research that studies new tests and treatments and {evaluates} their effects on human health outcomes. People volunteer to take part in clinical trials to test medical {interventions}. Clinical trials are carefully {designed}, reviewed and completed, and need to be {approved} before they can start.

Choices: evaluates , conventions , disposed , interventions , reaches , designed , approved

Around the age of 6 months, an infant's need for energy and nutrients starts to {exceed} what is provided by breast milk, and complementary foods are necessary to {meet} those needs. An infant of this age is also developmentally ready for other foods. This transition is {referred} to as complementary feeding. If complementary foods are not introduced around the age of months, or if they are given inappropriately, an infant's growth may {falter}.

Choices: required , occur , exceed , falter , referred , demand , meet

Dementia is an {umbrella} term for several diseases affecting memory, other cognitive abilities and behavior that {interfere} significantly with a person's ability to maintain their activities of daily living. There is often a lack of awareness and understanding of dementia, resulting in stigmatization and barriers to {diagnosis} and care. The impact of dementia on carers, family and society at {large} can be physical, psychological, social and economic.

Choices: tag , interfere , diagnosis , bottom , large , unexpired , umbrella

A healthy adult Weddell seal can stay underwater for 20 minutes, and some of them even have the power to {dive} for over 1 hour. However, after giving birth, the mother seals have to {sacrifice} some of their own iron stock by transferring iron from their livers to the milk they {feed} their pups so that their offspring can become better divers. This direct transfer of iron {results} in reduced diving time for the mothers.

Choices: enhance , engages , dive , sacrifice , search , results , feed

Beavers are capable of building dams that can {last} for decades or even more. A dam with an underwater entrance can't easily be {compromised} by a terrestrial predator and in times of emergency, and it can also be used as a {tunnel} for a swift escape.

Choices: account , released , last , compromised , potential , tunnel

Infants and toddlers cannot understand death. They function in the present and are aware of loss and {separation}, as well as disruptions in their routines. They are also {attuned} to the emotions and behaviors of significant adults in their lives, so a death of a loved one may cause a young child to become anxious and {irritable}, cry, or change their sleeping and eating habits.

Choices: expected , separation , obesity , picturesque , attuned , irritable

There are evidences that truffles have been around for over 150 million years, but {despite} being around for so long, they've remained {elusive} – some species were only discovered in the past 20 years, and other species haven't even been discovered. Truffles are notoriously difficult to grow and are seasonal, so the amount of time {invested} in growing truffles, their {limited} production, the labor-intensive extraction process, and short shelf life are what make truffles so expensive.

Choices: elusive , invested , neutral , limited , despite , average , through

Palliative care is an interdisciplinary {approach} to specialized medical and nursing care for people with life-limiting illnesses. It focuses on providing {relief} from the symptoms, pain, physical stress, and mental stress at any stage of illness, with a goal of {improving} the quality of life for both the person and their family.

Choices: permission , relief , curriculum , controlling , improving , approach

Denial is often the first reaction to {overwhelming} or unimaginable news. Denial, or disbelief or shock, protects us by allowing such news to enter slowly and to give us time to come to {grips} with what is taking place. The person who receives positive test results for life-threatening conditions may question the results, seek second opinions, or may simply feel a sense of disbelief {psychologically} even though they know that the results are true.

Choices: occasionally , grips , overwhelming , damaged , terms , psychologically

Millions of years ago, the continents were arranged in a way that one landmass dominated the others: Gondwana, which {incorporated} present-day South America, Africa, Arabia, Madagascar, India, Australia, and Antarctica. More continents collided with this early Gondwana {over} time to form Pangaea, the “whole Earth.” It was immense by any {stretch} of the imagination: all of the planet's landmass was surrounded by the biggest ocean in history.

Choices: invaded , in , sort , stretch , over , incorporated

Before Google Maps and even GPS, people used magnetic compasses for over 900 years in order to reliably {navigate} around the world. A compass works by using the earth's magnetic field to {align} a magnetized needle. This allows us to {determine} the four cardinal directions: north, south, east, and west.

Choices: determine , navigate , replace , align , rejoice , defer

Academic achievement is important in its own {right} as a marker of positive adjustment during adolescence but also because academic achievement sets the {stage} for future educational and occupational opportunities. The most serious {consequence} of school failure, particularly {dropping} out of school, is the high risk of unemployment or underemployment in adulthood that follows.

Choices: commitment , right , consequence , dropping , pointing , fact , stage

Anthropologists' early perception of Neanderthals was partly {rooted} in racist ideology that one's intelligence or humanity could be {assessed} from skull shape, and that ancestral human species like Neanderthals were necessarily much more "primitive" than humans are today. Those assumptions have now been {discredited}: new discoveries over the past few decades have helped to rehabilitate Neanderthals' reputation as people who were a lot like us.

Choices: crated , rooted , appeared , retaliated , assessed , discredited

Reptiles, the most abundant and {diverse} animal group in the desert, are well {adapted} to extreme temperature variation because they are cold blooded, which means they do not need to invest energy in {maintaining} a constant body temperature. In other words, reptiles can use this energy {elsewhere},like hunting.

Choices: equipped , elsewhere , sublime , adapted , diverse , maintaining , directly , engaging

Geologists have discovered a massive Maya site that {stretches} approximately 650 square miles. The findings were the result of an aerial survey that researchers {conducted} via airplane using lidar, in which lasers are beamed out and the reflected light is used to create {aerial} imagery of a landscape. Using data from the scans, the team {identified} more than 1,000 settlements dotting the region.

Choices: aerial , identified , conducted , stretches , competent , drives , qualified

Dinosaurs largely died off when a Manhattan-size asteroid {slammed} into Earth 66 million years ago. Meanwhile, in the shadows, tiny mammals had steadily {picked} up adaptations that helped them survive the disaster and {thrive} in its aftermath, a new study suggests. The study came to that conclusion by {mapping} the complex interactions between a huge range of ancient animals and their ecosystems before and after the asteroid hit.

Choices: thrive , thrill , picked , brought , slammed , mapping , entering

Hidden below the waters of the Gulf of Mexico, the Chicxulub crater marks the impact site of an asteroid that {struck} Earth 66 million years ago. The most {consequential} outcome of this cataclysmic event was the fifth mass extinction, which {wiped} out about 80% of all animal species, including the non-avian dinosaurs.

Choices: clinical , wiped , deflected , struck , cast , consequential

It can take years of {painstaking} work before scientists are ready to introduce a new material with a set of specific properties. Now researchers develop a new AI algorithm called M3GNet that can predict the structure and dynamic properties of any material, whether {existing} or new. In fact, M3GNet was used to build a database of more than 31 million {novel} materials that have yet to be synthesized.

Choices: existing , delinquent , intrusive , painstaking , novel , vested

Hibernation allows the animal to {conserve} energy during periods of food scarcity or cold weather when there's not much to do, when animals eat lots of extra food to {build} fat stores for hibernation. This fat will {feed} the animal the whole winter so there has to be enough. Hibernation is most commonly observed in some mammals, but some reptiles and amphibians also {exhibit} hibernation-like behavior.

Choices: feed , localize , build , fulfil , inhabit , conserve , exhibit

Although the Christmas tree is a relatively recent {addition} to the list of holiday traditions, it goes back several centuries, as do many other customs. Long before Christianity { appeared}, people in the Northern Hemisphere used evergreen plants to {decorate} their homes, particularly the doors, to celebrate the Winter Solstice.

Choices: addition , appeared , decorate , submerged , construct , review

Zebras in the open African savanna had many more predators to worry about, so natural selection has {forged} them into very reactive animals that are ready to {leap} at the slightest sign of danger. Also zebras have no family structure and no hierarchy, so despite their horse-like appearance, zebras won't {submit} easily to humans.

Choices: converged , submit , dispatch , leap , forged , relate

A flower's colour, however, isn't a full-proof guide to a good lunch. That's because the colour can change depending on the angle at which sunlight hits its petals. A yellow flower, for example, may look somewhat blue from one angle and red from another. Scientists call this kind of colour change iridescence. 'It's the same {phenomenon} that makes a rainbow appear in a soap bubble or on a CD,' says Beverley Glover. She studies plants at the University of Cambridge in England. In 2009, Glover and her colleagues showed that even when petals look {shimmery}, bees can still tell which flowers likely hold food. But she and others noticed something odd about iridescence. It's not quite as flashy in plants as in other life forms, Glover says. The backs of jewel, beetles, or the wings of certain butterflies, for instance, shine and shimmer a lot more. The researchers tested their hypothesis in the lab. They trained a group of bees to associate fake purple flowers with getting more nectar. Then the team tested the bees. They added non-shimmery {fake} flowers with purple-blue and purple-red hues to the bees' flight path. The bees passed the test, ignoring flowers that weren't perfectly purple. Second group of bees was trained to drink from fully flashy, 'perfectly iridescent' purple flowers. But when the team added perfectly iridescent flowers in different hues, the insects checked them for nectar, too. A third group of bees, however, had no problem finding the right flowers when the petals had only a little bit of bling. These bees were trained to drink from '{imperfectly} iridescent' purple flowers. When the team added imperfectly iridescent flowers in different hues, the bees weren't confused at all. 'They could still clearly identify the purple flowers as the good ones,' Glover says. That means imperfect iridescence is best for bees.

Choices: overwhelmingly , indigenous , fake , imperfectly , phenomenon , shimmery , chant , regular

Scientists around the world are racing to learn how to rapidly diagnose, treat and stop the spread of a new, deadly disease. SARS -- Severe Acute Respiratory Syndrome -- was detected for the first time in February 2003 in Hanoi, and since then has infected more than 1,600 people in 15 countries, killing 63. At this {point}, there are more questions than answers surrounding the disease. Symptoms start with a fever over 100.4 degrees F, chills, headache or body aches. Within a week, the patient has a dry cough, which might {progress} to shortness of breath. In 10% to 20% of cases, patients require mechanical ventilation to breathe. About 3.5% die from the disease. Symptoms {generally} begin in two to seven days, but some reports suggest it might take as long as 10 days. Scientists are close to {developing} a lab test to diagnose SARS. In the meantime, it is diagnosed by its symptoms. There is no evidence that antibiotics or anti-viral medicines help, so doctors can offer only supportive care. Patients with SARS are kept in isolation to reduce the risk of transmission. Scientists aren't sure yet, but some researchers think it's a newly discovered coronavirus, the family of viruses that cause some common colds. Most cases appear to have been passed through droplets expelled when infected patients cough or sneeze. Family members of infected people and medical workers who care for them have been most likely to contract the illness. But recent developments in Hong Kong suggest that the disease might spread through air, or that the virus might linger for two to three hours on doorknobs or other {surfaces}. Health experts say it is unlikely, though, that sharing an elevator briefly with an infected person would be enough to pass the virus.

Choices: contents , cost , generally , exclusively , surfaces , quitting , point , revive , developing , progress

Marriage is a big step {in} anyone's life and there is an argument to be made {against} getting married too early. As any newlywed couple knows, there is a huge amount of financial pressure associated {with} marriage. Firstly, the wedding reception and honeymoon cost you an arm and a leg. Then there's the matter of home loans, rent and energy bills. If you're looking to start a family, your child's education is another thing you need to save up {for}. Teenagers should probably find a proper job before deciding to tie the {knot}.

Choices: tangle , for , cost , throughout , knot , with , in , against

REIQ Gold Coast Zone chairman John Newlands said some southern suburbs were shaking off a poor reputation an {experiencing} gentrification as wealthier residents moved in and displaced people from lower-income groups. "I think suburbs such as Miami have become {popular} with people who previously would not have gone there," he said. "They have come into their own with new restaurants and markets {opening} which has also made them more attractive." Developers have {cottoned} on to the trend as well, with Sunland launching a \$62 million development, Magnoli Residences, in Palm Beach.

Choices: collected , decreasing , experiencing , opening , cottoned , overcoming , popular , rigid

Many Utopias have been dreamed up through the ages. From Plato's Republic to Thomas More's Utopia and beyond, serious thinkers have {envisioned} societies where people live in peace and harmony. Most of these imaginary worlds have things in common: everybody is equal and plays a part in the running of the society; nobody goes without the essentials of life; people live mostly off the land; often there is no money, and so on. Another thing they have in {common} is that, to the average person, they appear distasteful or unworkable since they do not take into account ordinary human nature or feelings. Architects have got in on the act, too. After the Great Fire of London, Christopher Wren drew up plans for a reconstruction of the whole city, including {precise} street

widths. And in the 20th century there was Le Corbusier's Radiant City in which, if you weren't in a car or didn't have one, life would have been a nightmare. Also in the 20th century; another famous architect, Frank Lloyd Wright, {dreamed} up a perfect city that got no further than the drawing-board. Wright believed that what was wrong with modern cities was, in his words, rent. Ideas, land, even money itself, had to be paid for. He saw this as a form of slavery and believed that modern city dwellers had no sense of themselves as productive individuals. Thus, Wright's city was to be made up of numerous individual homesteads, and the houses themselves were to be simple, functional and in {harmony} with the environment. Everyone would own enough land to grow food for himself and his family. No outsiders would be allowed to come between the citizen and what he produced, or to exploit both for money. Goods and services would all be {exchanged}, not bought and sold for profit.

Choices: exchanged , ingredient , common , dreamed , precise , pieced , harmony , horizontal , envisioned

A koala rode 16 kilometers near Adelaide, Australia, inside an {arch} for a car wheel. The driver did not {observe} until he stopped and heard the animal making noise. A woman with an animal rescue organization said that it was incredible, but the koala was in {shock}. The organization took her straight to the vet. People named the koala Kelli, after one of her {rescuers}, and put the koala back into the wild. She quickly climbed up a tree and went to sleep. Koalas are a {vulnerable} species as there are less than 100,000 of them in the wild.

Choices; vulnerable , observe , incumbency , favorable , shock , spite , arch , predators , rescuers , care

Charlie Watts, the London-born Rolling Stones drummer who {propelled} the band's sound for nearly 60 years, died at the age of 80. Watts is {regarded} as one of the greatest and most {stylish} rock drummers of all time. He was a member of the Rolling Stones since January 1963, when he joined Mick Jagger, Keith Richards, and Brian Jones in their {fledgling} group. Watts helped them become one of the bands who took rock'n'roll to the spawning point in the 1960s with classics like Satisfaction or Sympathy of the Devil.

Choices: ancient , stylish , orthodox , regarded , fledgling , discerned , simulated , propelled

An Australian sheep farmer paid his own unique {tribute} to his beloved aunt. Due to pandemic {restrictions}, Ben Jackson was unable to attend his aunt Deb_s funeral that took place 400 kilometers away. He {scattered} grain in the shape of a heart in a field, so that thousands of sheep would come into the field and fill up the vast shape. Like many families {separated} during the pandemic, Jackson wasn't able to say goodbye to a loved one, and he felt hopeless.

Choices: tribute , budget , restrictions , scattered , allowances , separated , harvested

Sleep {deprivation} is a global issue in all the major cities around the world where the amount of sleep is {decreasing} over decades. Now, the decrease is growing with the {onslaught} of the COVID-19 pandemic. Stress plays a major role in how we sleep. People are {meant} to have some kind of routines, and many people lost them during the pandemic and especially during lockdowns. People woke up and went to sleep at {odd} times, they ate at odd times, and all of that definitely affected their biological rhythms.

Choices: forced , meant , marvelous , treatment , decreasing , abundance , deprivation , odd , onslaught , mounting

Sirhan, the {assassin} of US Senator Robert F. Kennedy, was granted {parole} on Friday, after two of Kennedy's sons spoke in favor of Sirhan's release, and lawyers {declined} to argue that he should stay in jail. The decision was a major victory for the 77-year-old man, who spent 53 years in prison; however, it doesn't {guarantee} he is free. Douglas Kennedy, who was a toddler when his father was gunned down in 1968, said he was moved to tears by Sirhan's {remorse}, and he should be released if he's not a threat to others.

Choices: guarantee , prize , valued , remorse , deputy , assassin , declined , parole , matter , dignity

LISTENING

SUMMARIZE SPOKEN TEXT [Transcripts]

The research team studied local government, identifying three main concerns. First, they stressed enabling citizens to take more responsibility and be involved in decision-making. Second, they proposed creating a more citizen-centric public service to support people's needs efficiently. Lastly, they highlighted the need to improve the relationship between national and local government, as citizens suffer from the resulting mistrust. Overall, the focus was on empowering citizens and fostering a collaborative approach to governance at the local level.

Eco-tourism is gaining popularity as a form of tourism that aims to protect and enhance the environment and cultures. However, there is growing concern that many so-called sustainable and nature-based tourism options are not truly eco-friendly. Governments and the tourism industry promote eco-tourism, but doubts persist about its scientific foundations and effectiveness in solving social and environmental issues. Some eco-tourism holidays might be mere marketing tactics and can even harm local cultures, economies, and natural resources. The abundance of terms like adventure travel, sustainable tourism, and cultural tourism further confuses travelers seeking genuinely eco-friendly options.

The professor expressed concern about declining language standards among students and graduates. They lamented the misuse of words and the changing meanings of certain terms, exemplifying "enormity" now being used for something big instead of wicked. The professor acknowledged language evolution but advocated early education in grammar and syntax basics without resorting to excessive analysis like Latin. They acknowledged the value of detailed language understanding while recognizing the inevitability of language change.

The history of the novel is complex, and defining it proves challenging. People have their favorite novelists across various eras and genres. When looking at the history of the English novel, the late 17th and early 18th centuries are commonly regarded as the starting point. Bunyan's "Pilgrim's Progress" and Defoe's "Robinson Crusoe" are among the earliest examples. While some try to trace the origins even earlier, it risks blurring the distinction between true novels and other forms of fiction.

In this text, the author discusses the limitations of understanding the experiences and thoughts of others. The philosopher Thomas Nagel's thought experiment about imagining being a bat is used as an example. While we can observe and predict how people behave, we cannot truly know what goes on in their minds. Even though we may share similar experiences, individual interpretations and emotions can differ significantly, and these differences are not solely influenced by culture.

The text discusses the impressive capabilities of sound receptors in the ear. These receptors can translate vibrational energy into fluid motion, then into electrical signals, allowing us to hear. While not delving into the specifics, the author invites interested individuals, particularly MIT students, to explore these remarkable devices further.

Mary Mallon, known as Typhoid Mary, was an asymptomatic carrier of typhoid fever in the US. She infected 51 people, causing three deaths during her career as a cook. Authorities isolated her twice, and she spent nearly three decades in isolation. From 1900 to 1907, she worked for several families in New York, where typhoid outbreaks occurred soon after her employment. Her last job with a wealthy banker's family led to six cases of typhoid in Oyster Bay, an unusual occurrence according to local doctors.

Around half of the world's population suffers from Vitamin D deficiency, affecting both children and adults. Lack of sun exposure is a major cause, as humans traditionally relied on the Sun for their vitamin D needs. Over the past four decades, suggestions to avoid direct sunlight have contributed to the deficiency pandemic. While vitamin D is widely known for preventing rickets, its potential health benefits are often overlooked. Surprisingly, it may reduce the risk of heart attacks and common cancers by up to 50%, lower the chances of infectious diseases like influenza by 90%, and decrease the risk of type I and type II diabetes.

Globalization encompasses various definitions. One perspective views it as the expansion of international transactions, trade, and communication, with multinational companies playing a significant role. Historically, globalization traces back to exploration and trade, like the Europeans seeking spices in the Orient. Another aspect is its role as an economic system, where countries become interconnected in their production and consumption of goods, creating organic solidarity across the globe. This economic progress marks a departure from the past industrialist economy, signifying the ongoing impact and evolution of globalization.

The text discusses the relationship between international environmental law and domestic legislation. It emphasizes the importance of sovereign states implementing international law locally. The United Kingdom's historical legislative control over environmental impacts is mentioned, but early measures were ineffective due to weak enforcement. The Industrial Revolution intensified environmental issues as industrialists prioritized economic gains over environmental concerns. This led to the need for more comprehensive statutory controls on pollutant discharge.

The subject report on citizenship development in schools highlights successful implementation in some schools, meeting national curriculum requirements. However, it criticizes schools that haven't taken citizenship seriously, leading to marginalization in one fifth of schools. Despite critics' concerns, committed schools show progress, indicating that citizenship can install essential skills, attitudes, and values in young people to navigate a changing world, especially considering recent national and global events.

Globalization is a transformative process involving the spatial reorganization of social relations and transactions, resulting in transcontinental flows and networks of activity and power. It encompasses four changes: stretching activities across borders, intensifying interconnectedness, speeding up global interactions through improved transportation and communication, and deepening the impact of global events on local and global levels. Globalization has three definitions: increased trade, communication,

and cooperation among countries, leading to a global and integrated economic system. It fosters interdependence among nations in terms of production and consumption.

In developed countries, pragmatic approaches and democratic systems have moderated the market economy. During the 18th and 19th centuries, the Industrial Revolution negatively impacted the working classes worldwide, leading to reduced life expectancy and standards of living. However, through legislative measures and regulations, working conditions improved, and environmental conditions were better managed in the 20th century. Consequently, the market economy has become more beneficial and equitable compared to a century ago.

Citizenship education is vital in schools, yet only 1/5 offer proper courses focusing on skills and attitudes. The reluctance to teach in the past has improved, but challenges remain due to lack of commitment and teachers. Criticism suggests schools need to reflect democratic practices for effective citizenship education. The curriculum covers civics, democracy, and government structures. Sadly, many schools neglect this subject, dedicating less time to it. Given more attention, citizenship education could enhance students' skills, attitudes, and leadership abilities to face the changing world.

The text discusses the possibility of global oil production peaking and entering a decline, raising concerns about when this might happen. While some believe it won't occur until decades later, others worry it could be happening now or very soon, catching the world unprepared. The consequences of a world reliant on cheap liquid energy facing the end of the age of oil are being felt, particularly in suburban areas of Australia where high mortgages and dependence on private transport are causing financial strain.

The text discusses abstraction, which has two methods: symbolic language and body language. Abstraction is vital in computer development, originating from the symbolic system used for communication among people. Symbolic language expanded communication to a broader audience. Additionally, body language played a role, leading to the development of sign language, commonly known as hand words.

UK research on 7000 young students explores their involvement in communities, character education, and influential factors. It examines the impact of parents, friends, schools, and siblings on their development. Successful schools rely on community support, becoming crucial for social health. Families play a significant role as the primary unit for children's learning and development, with good parenting requiring support, care, love, guidance, and protection. The research has garnered interest from national policymakers.

Around 23,000 years ago, Europe experienced a harsh glacial period, with temperatures dropping, rain levels decreasing, and a massive ice sheet advancing to cover much of northern Europe for thousands of years. While many animal and plant species sought refuge in warmer southern peninsulas, evidence suggests our ancestors retreated to Franco Cantabria, an area spanning southwest France and northeastern Spain. The growing ice sheet caused sea levels to drop up to 120 meters lower than today, possibly exposing shallow sea areas where humans might have lived, but no evidence remains due to the current submersion.

The text discusses the ongoing rise in greenhouse gas concentrations due to energy consumption in industrialized nations and increasing fossil fuel use in developing countries. Predictions indicate a temperature increase of 2 to 10 degrees Fahrenheit by the century's end, with uncertain effects on the planet. Climate models suggest subtle changes or more extreme outcomes like rising sea levels, altered weather patterns, increased hurricanes, and severe droughts leading to species extinction. To combat global warming, organizations advocate reducing greenhouse gas emissions, and individuals can contribute by conserving energy and adopting eco-friendly habits.

In liberal western democracies, it's often assumed that citizens are well-informed, but many societies go against this idea. Some governments, even elected ones, deny certain events and promote false narratives. They use various tactics to divert attention and cover up their mistakes. Lack of access to information still plagues many parts of the world. Being informed is essential for citizens, especially in such contexts.

Throughout history, hospital design and patient recovery have been subjects of research. As far back as 1855, Florence Nightingale recognized the importance of color and form in aiding patient recovery. Fresh air, sunlight, and views of nature's beauty have been found to positively impact patients, helping them rest and alleviate stress. Additionally, social interactions, such as visits from loved ones, also contribute to faster recovery. It's widely acknowledged that a well-designed hospital environment significantly correlates with higher recovery rates, as supported by 90% of patients and nurses.

Many large corporations, including Cisco and General Electric, use ranking systems to motivate employees and improve productivity. The top performers are rewarded while the bottom ones face dismissal, causing fear and stress among all employees. However, this approach is flawed as competition induces fear and hinders inspiration and creativity, making even simple tasks challenging. It's crucial for companies to reconsider such practices to foster a healthier work environment.

Stress comes in two types. The first is beneficial stress, like exam pressure, which can motivate improvement. The second, caused by poor time management, is the one we usually worry about. Effective time management is crucial to handle heavy workloads and reduce long-term stress. It gives direction, enhances productivity, and allows for a balanced life. Utilizing a calendar and finding a play-work balance can help alleviate stress. Remember, not all stress is bad; it's about how you interpret and manage it.

The Nonhuman Rights Project fights for legal rights of non-human animals, particularly chimpanzees in this case. They chose the state of New York to file suits on behalf of chimpanzees, who possess extraordinary cognitive capabilities similar to humans. They found Tommy, a chimpanzee living in poor conditions, and filed three suits using a common law argument. However, the court rejected the appeal, stating that chimpanzees are not humans, despite evidence of their cognitive abilities. The fight for their rights continues.

The text discusses the concept of red oceans and blue oceans in business strategy. Red oceans refer to existing industries with intense competition, while blue oceans represent new, untapped markets where demand is created. Blue Ocean strategy involves simultaneously pursuing value and cost to

create and capture these new markets. Companies that successfully create blue oceans can enjoy long-lasting benefits as they are difficult for rivals to imitate. To achieve this, companies should chart a strategic course beyond traditional industry boundaries to create new market space.

Recycling is a concept of converting old products into something usable again, conserving natural resources, and reducing pollution. However, the economic aspect poses challenges, as recycling can often cost more than disposing of items. Despite this, recycling significantly saves energy and lowers greenhouse gas emissions. The rate of waste generation is increasing, leading to overflowing landfills and environmental concerns. To address these issues, some propose a radical approach of rethinking our relationship with materials and reducing consumption.

The text emphasizes the importance of understanding childhood to navigate adult emotional complexities successfully. It highlights Freud's eternal contribution in linking adult emotional lives to childhood experiences. Misunderstood childhoods lead to anxiety, lack of trust, dread, paranoia, rage, and self-loathing. In a saner world, people would recognize that their childhoods hold the key to their identities, and exploring this subject should be valued as highly as academic topics. Only by knowing our past can we overcome emotional challenges and gain insights into our behavior.

The text highlights the importance of recognizing that maturity and kindness don't always mean never giving up on people. Sometimes, for our well-being and growth, we need to accept that certain individuals may not change and choose to walk away. It's about learning to love ourselves and prioritizing our needs without feeling guilty. This act of self-preservation doesn't signify weakness but rather a sign of personal growth and self-awareness.

An effective apology involves addressing three crucial questions: first, telling the truth about the issue to instill confidence in understanding and fixing it. Second, ensuring people know whose interests the company represents. Lastly, explaining how the company's actions will benefit those who trust them. By clearly laying out facts and action plans, the apology gains credibility, showing the company's commitment to avoiding similar problems in the future.

This text highlights the concept of a "masculinity contest culture" in organizations where coworkers compete aggressively and emotions, especially doubt, are discouraged. This toxic culture excludes women and hampers teamwork, innovation, and the bottom line. Researchers identified four masculine norms linked to organizational dysfunction: no weakness, strengthen stamina, put work first, and a dog-eat-dog mentality. This constant defense of masculinity fosters more toxic behavior.

Banks may not be the ones to introduce digital currencies, but they are likely to react to others' innovations. Although digital currency might seem alternative, it's becoming mainstream. Major banks are aware of this and investing in the technology. Eventually, banks will either lead or follow in the adoption of digital currencies as they cannot avoid it. They weigh the trade-offs of disrupting themselves versus waiting to react when others introduce digital currencies.

The text explains that while we often try not to bother others, humans have a natural desire to be helpful and needed. We fear feeling unnecessary, and fulfilling others' needs provides a sense of gratification. Work becomes fulfilling when it allows us to alleviate others' suffering or increase their pleasure. Being asked to exercise our skills and abilities helps us recognize our own strengths and capabilities. Ultimately, we rely on the needs of others to remind us of what we are capable of achieving.

Research suggests that silent meetings are more effective for brainstorming and problem-solving. They create a safe space for novel ideas to emerge without fear of embarrassment. Silent meetings also avoid production blocking, allowing everyone to express ideas simultaneously. To conduct a silent brainstorming meeting, participants write down their ideas independently, sort them into clusters, discuss, and vote on preferred ideas. Adopting various meeting styles based on goals can lead to better outcomes.

In a workplace setting, tight-knit groups of software engineers who are open to non-conformist individuals tend to foster innovation and success for the organization. These groups welcome unique perspectives and unconventional thinking, which can lead to fresh ideas and problem-solving approaches. Balancing between compliance and being part of a cohesive team is crucial for achieving the highest level of success in organizations.

The text discusses the importance of studying spending behavior and its impact on happiness. It suggests three key points for better spending: knowing oneself, investing in social relationships, and prioritizing experiences over material things. The author uses their preference for sharing experiences with family, particularly around food, as an example. The aim is to help people make informed choices about their spending to maximize happiness.

This text highlights that busy people may seem active and productive, but they might be avoiding deeper emotional introspection. Their constant busyness could be a way to distract themselves from facing important questions about their true desires and feelings. The author suggests that we should value and encourage moments of reflection, even if they may lead to uncomfortable emotions. True courage lies not just in constant activity, but also in allowing ourselves time to confront our inner thoughts and emotions.

In a seller's market, marketing revolves around a product-focused approach. The focus is on developing, innovating, and reducing costs of the product to attract customers. The main business objective is to sell as much as possible, as profitability is linked to market share. Increased market share leads to higher revenues, lower product costs, and more profit. Growth in this market comes from developing new products based on existing experiences or expanding into new markets.

Yoga is a low-impact exercise that improves fitness and flexibility in healthy individuals. It also shows promise as a therapeutic tool for musculo-skeletal disorders, reducing pain and improving mobility more effectively than other low-impact exercises. For hard-to-treat conditions like chronic lower back pain, rheumatoid arthritis, and osteoporosis, adding yoga to an existing exercise routine can be beneficial. Additionally, yoga's combination of physical exercise and controlled breathing proves to be therapeutic for lung health, relaxing constricted passageways and improving oxygen diffusion, which is beneficial for weak heart muscles and reducing cardiovascular disease risk factors.

Multitasking is challenging for our brains as we lack the capacity to process everything simultaneously. While we can switch attention between tasks, overload leads to decreased performance. True multitasking is only possible when tasks require different cognitive resources. For example, reading a book and listening to music is feasible. However, talking on the phone while driving is risky since mental images interfere with visual resources needed for driving. Multitasking can make us inefficient and dangerous; our brains are not wired for handling numerous tasks simultaneously.

Evil is not inherent but a consequence of inner wounds that lead people towards malice. Unraveling these wounds requires patience, humanity, and love. It may be morally and practically frightening to delve into the origins of evil, fearing it might make us sympathize with abhorrent behavior or enable wrongdoers. However, understanding the true catalysts can transform our perspective on the trespassers and help us deal with them while maintaining safety and empathy.

Napping can have benefits for the brain and body, but it can also be a double-edged sword. The ideal biphasic pattern consists of a longer sleep at night and a short afternoon nap, similar to siesta cultures. However, long afternoon naps can disrupt nighttime sleep, so it's best to avoid them if you have sleep issues. For those who don't struggle with sleep, short naps of around 20 minutes taken early in the day are generally fine.

A single workout boosts neurotransmitters like dopamine, serotonin, and noradrenaline, instantly improving mood and attention for up to two hours. It also enhances reaction times. However, these effects are temporary. To experience lasting benefits, adopting a consistent exercise routine and improving cardiorespiratory function is necessary. Exercise leads to changes in the brain's anatomy, physiology, and function, including the growth of new brain cells in the hippocampus, resulting in increased volume and improved long-term memory.

In a capitalist society with widespread automation, three classes emerge: the rich machine owners, those providing services, and the jobless masses. This leads to extreme inequality and corporate totalitarianism, as the wealthy become more powerful and use technology to suppress resistance. With insufficient welfare and no wealth accumulation, inequality worsens, posing challenges for a fair and equitable society. The dominance of machines creates a dangerous concentration of power and control in the hands of the ruling elite.

One reason, some scientists think, that we began synchronizing with other people is because it allowed us to create social bonds. This long history suggests that it is beneficial to have neural connections that help us sync up with our group mates, which might have been an advantage to scare away predators as a group. This mental coordination, at some point, resulted in dance. This propensity to dance and make music in groups has led scientists to propose that this might be one reason why humanity has managed to form and remain in large group of societies.

By the early 1950s, it was becoming apparent that a growing number of elderly Americans had no economic protection from the increasing cost of health care. Congress began a years-long debate on this issue of national health insurance for the elderly. Today it protects more than 40 million Americans from the high cost of hospital care. Yet costs quickly started to exceed expectations, and as

Americans' life expectancy increased over the years, the Medicare program became even more expensive. It has become a matter of national debate and a financial issue for every Congress and President since.

The world today feels like it's a constant VUCA environment, volatile, uncertain, complex and ambiguous. This is problematic because we feel like we're all in a collective crisis of attention. So it's very important that we, as citizens of the world, understand what is true, and what is false. A question on my mind these days is what is the role of attention in minimizing truth bias. Because this truth bias may be driving the proliferation of many false narratives. False narratives abound, not just in the United States where I live but around the world, and people are believing them.

Similarly, the circadian rhythm of a plant allows it to respond to changes in roughly 24 hour cycles. When the sun sets, the flower reverts to its original position, facing East to begin the cycle again the next day. When the sun starts moving from East to West in the sky, the east side of the stem of a sunflower plant grows more rapidly than the West side. Similarly when the sun finally sets, the growth on the West side of the stem is greater than the growth on the East. As a result of this, the stem bends east, that is, in the direction where the sun would rise again the next morning.

The first is that as water freezes, its molecules move farther apart. The molecules of most substances move closer together as they freeze, making them shrink at lower temperatures. But water molecules move farther apart at temperatures below 39 degrees Fahrenheit, making water expand as it freezes. Remember that the molecules in ice are farther apart than the molecules in water; therefore ice molecules are vulnerable to pressure which pushes them closer together, causing the ice to change into water. So when you step on a patch of ice, you exert pressure on the ice, which causes its molecules to move closer together.

Scientists have not only found cancer in many other animals, they have found it in dinosaurs that lived more than sixty-five million years ago. Wondering if fossils could tell us something about ancient cancer, scientists traveling with a portable x-ray machine scanned ten-thousand dinosaur vertebrae of over seven-hundred museum specimens. Twenty-nine benign tumors were found in the tail bones of ninety-seven animals. Doctors find the same type of tumors in humans today. The cause of hadrosaur cancer remains a mystery today, but dinosaur fossils are helping unlock secrets of diseases millions of years old.

And so he coined the term 'nostalgia' to represent this pain associated with people's longing for their homeland - and he saw it very much as a disease. If you fast forward to the present day, you would discover that nostalgia is actually considered a psychological resource. And what we discovered through careful experimentation using tools of modern behavioral science, is that it's actually not the case that nostalgia makes people miserable. It's when people are miserable that they turn to nostalgia and nostalgia doesn't reinforce that misery, it actually comforts them.

Your body runs on finely tuned chemical machinery, proteins, and the cell's instruction manual - DNA. The cell's maintenance mechanisms repair damaged DNA, discard old proteins, and signal the cell to make new proteins. The body makes more cells to replace these old ones. However, cells have an internal limit - defined by their DNA - on how many times they can divide, meaning that we can't

keep creating new cells forever. Over time, with fewer new cells to replace old ones and with the damage piling up, it becomes difficult to maintain our youth.

The stress resulting from uncertainty is tremendous in our society. It increases brain cell death. We do almost everything to avoid uncertainty. And that's why creativity, seeing differently, always begins in the same way: it begins with a question. It begins with not knowing. It begins with a 'what if?'. It begins with a 'what if?'. Every time you take a step your brain has hundreds of assumptions: that the floor is not going to give way, that your legs aren't going to give way, that that's not a hole, it's a surface. So these assumptions keep us alive. So your brain evolved to evolve.

The grid was designed for utilities to deliver electricity to consumers homes, and then bill them once a month. The smart grid introduces a two-way dialogue where electricity and information can be exchanged between the utility and its customers. This smart grid enables newer technologies to be integrated, such as wind and solar energy production and plug-in electric vehicle charging. With our participation as informed consumers, this smart grid will replace the aging infrastructure of today's grid, and utilities can better communicate with us to help manage our electricity needs.

In fact, the ring of fire, a path that traces the boundaries between several tectonic plates around the Pacific Ocean, contains about 75 percent of the planet's volcanoes. Major types include stratovolcanoes, which often appear as tall steep mountains, shield volcanoes, which are flatter and dome-shaped, calderas, which are large depressions in the ground, and mid-ocean ridges, which are underwater chains of volcanic mountains. No matter their shape or size, all volcanoes emit gas and molten rock. In doing so the heat melts some of the rock, this molten rock, or magma, is lighter than the surrounding solid rock layer, so it rises through the mantle.

Earth's unique position in the solar system allows it to house phenomena yet to be found anywhere else in the universe, particularly liquid surface water and life. But Earth is the only known place in the universe with liquid water on the surface, thereby having unique cascading effects on the planet. About 3.8 billion years ago in Earth's oceans, primitive life existed in the form of microbial organisms. They and the ensuing billions of years gave rise to a range of more advanced life forms that survived in Earth's seas, lands and skies.

Hydroelectric energy comes from capturing the force of moving water that's in our Earth's rivers and oceans. Most hydropower is generated from dams built on rivers and streams, often where there's a big drop in elevation, so gravity can help us out. Dams block the water's natural flow and force it through a large pipe with the turbine and generator, before releasing it back into the stream on the other side of the dam. Today we know that dams, most of which were built before the 1960s here in the US, can disrupt river ecosystems. This helps us get the electricity we need by protecting the natural environment around us.

The solution: wastes from farm animals can be collected in a large tank called a digester, filled with bacteria that eats the waste and converts it to methane gas. The methane is captured and burned to heat water and create steam. This same principle can also be used to capture methane, a potent greenhouse gas with 25 times the heat trapping ability of carbon dioxide from landfills. Once a section of the landfill is closed off, pipes are run from the waste to collect the gas, which can then be burned to make electricity or heat.

The incredible brilliant Sun. The earth gets more energy from this ball of fire and gas in one day than the whole world's population uses in an entire year. Ancient civilizations use glass and mirrors to light fires, but it wasn't until the 1950s that technology was developed to convert the sun's energy into electricity using photovoltaic cells. Today solar technology is more efficient and less expensive, and is used all around the globe to create electricity, heat water, cook food, and even power vehicles. When the Sun hits a solar panel, material inside, usually silicon, absorbs the energy.

White essentially reflects sunlight instead of absorbing it, like other colors do. And it's easy to see cracks or chips in the paint when that paint is white. You'll often see plastic, fiberglass, or carbon fiber painted white on planes, too. This is because these parts of the plane are easily susceptible to sun damage, which the white paint helps prevent. So why aren't all planes pure white? After a white base, airlines will often paint their brand name on the side and their colors on the tail of the plane.

A flu shot works by tricking your immune system into thinking a live flu virus has invaded your body. And an "immunologic response" is when your immune system activates white blood cells to respond to an invader. So once the vaccine deposits the antigens, your immune system jumps into action. Some white blood cells produce antibodies, who attack the antigen and latch on to it. Consider the flu shot as a practice run for your immune system: by learning to respond to the harmless lookalike antigen of the vaccine, your body prepares itself to respond to the actual virus.

First, the ant latches on with its strong mandibles. The burning sting, combined with red coloration and aggressive behavior, certainly make them some fiery creatures. If you don't bother fire ants, they won't bother you. The ants respond to disturbances: when they sense your movement, they won't hesitate to swarm. Once a single ant starts biting and stinging, its companions will follow suit. The stings leave red spots on your skin that eventually become unpleasant white pustules. In the meantime, if your picnic risks a fire ant run-in, maybe you should eat indoors.

If you're near a railyard in uncommonly cold temps, though, you may notice tracks pulling apart from one another, or bolts shearing off from joints. So, if the tracks were laid at seventy degrees, they can withstand both hot summer days and frigid winter nights. When the temps dip — say, to thirty below zero Fahrenheit — the steel contracts enough that it can pull apart at the joints. Railroads place gas-fed heaters at various spots along the railway, often at switch points. When a cold snap hits, workers manually light the heaters, which steadily burn beside the tracks.

A mutation is any random change in the DNA of a cell or an organism. These changes can happen either through external factors, like radioactivity, or UV and x-rays, or through internal factors, such as when a cell is dividing and it incorrectly copies the DNA. These proteins and their function in the body lead to the traits that make us unique, like eye colour or our blood type. Therefore, when the DNA changes, our proteins might also change, which could lead to a change in a trait. Sometimes, however, mutations can be good or bad.

Acid rain is any form of precipitation with high levels of nitric and sulfuric acids. Most acid rain is caused by human activities. When people burn fossil fuels, sulfur dioxide and nitrogen oxides are released into the atmosphere. These gases react with water oxygen and other substances to form sulfuric and nitric acid. After it falls to earth, acid rain enters water systems as runoff and sinks into

the ground. This can make water toxic to prey, fish clams, fish, and other aquatic animals. By designing cleaner power plants and using fewer fossil fuels, we can reduce the number of pollutants that create acid rain.

El Nino is not a storm but rather a weather phenomenon in the Pacific Ocean. During an El Nino, the surface water temperature warms up, leading to complex weather patterns. Nowadays, when sea surface temperatures in the equatorial Pacific Ocean rise point 5 degrees Celsius over their historic average for three consecutive months, and once atmospheric conditions and rainfall patterns shift accordingly, scientists officially declare an El Nino. Moisture then rises into the air and the effects of El Nino are felt throughout the Americas. Animals that normally feed on the sea life suffer, and Fisheries throughout Central and South America suffer, too.

Like Earth, Mercury is a terrestrial planet with three main layers, a core, a mantle, and a crust. Because of the core's exceptional size, it's had a surprising influence on Mercury's overall size, by causing it to shrink. In doing so, it pulled Mercury's surface inward, and has caused the planet to shrink radially by more than four miles. This shrinking planet is also the planet closest to the sun, orbiting our solar system's star at an average distance of roughly 36 million miles. It only has a very thin exosphere, which is traditionally the outermost layer of a planet's atmosphere.

Let's start the cycle with the evaporation of water from the surface of the ocean. Some of the water may evaporate back into the atmosphere, or the water may penetrate the surface and become groundwater. The groundwater may seep in its way into the oceans river or streams, or it may go into an aquifer, which is a body of saturated walk rock through which water can easily move, or it may be released back into the atmosphere through transpiration. This runoff may empty into lakes, rivers, and streams and then is carried back to the ocean where the cycle may begin.

One way to understand this complex system is by breaking it down into three different components: mode, fuel type, and technology. Modes of transportation allow people and goods to move across air, land, and sea. People often move by human power, cars, and planes, while goods are transported by truck, rail, or ship. Different fuels and how they are consumed have distinct impacts on the climate and our air quality. Technology refers to what the vehicle uses to move, like an internal combustion engine in a gas car or an electric motor in an electric vehicle.

The swamp conditions prevented the organisms from decaying completely, and after millions of years of intense heat and pressure, coal was formed. The general rule is that the higher the grade of coal, the cleaner it burns, and the more versatile its uses. Coal is extracted from the earth through underground mining or surface mining. Underground mining currently accounts for a larger share of world coal production than surface mining. Coal can be burned for heating or to produce electricity. To convert thermal coal to electricity, it is first milled to a fine powder which increases the surface area and allows it to burn more quickly.

Natural gas is primarily methane or CH₄, with smaller quantities of other hydrocarbons. Subject to intense heat and pressure, these organisms underwent a transformation in which they were converted to gas over millions of years. Natural gas is found underground rocks, called reservoirs. The rocks have tiny spaces called pores that allow them to hold water natural gas and sometimes oil. The natural

gas is trapped underground by impermeable rock, called a cap rock, and stays there until it is extracted. Natural gas can be categorized as dry or wet. Natural gas can also be found in reservoirs with oil and is sometimes extracted alongside oil.

About 71% of the earth's surface is covered in water, and we can harness some of it to create energy. The two most common water energy technologies are hydropower and tidal power. Hydropower is electrical energy derived from falling or running water. Tidal power converts the natural rise and fall of the tides into electricity using variety of technologies including tidal fences, garages and turbines. Additionally, wave power can be harnessed to capture energy from waves on the surface of the ocean using a special buoy. However, depending on the water energy technology, negative environmental land-use impacts can be an issue. Water is also heavily used in energy production processes.

The need for electricity storage is due to an imbalance in supply and demand on the electrical grid due primarily to an increase in renewable energy generation. These supply and demand discrepancies occur because renewables are intermittent, meaning electricity isn't produced when the Sun isn't shining or the wind isn't blowing, even though consumers still require electricity in these renewable downtimes. Currently, grids distribute electricity in real time, meaning electricity is being consistently produced to meet consumer demand. This grid flexibility is highly sought after and has the potential to transform how we produce and consume electricity and is therefore being widely researched and tested.

But if you're a fruit fly, literally dousing your offspring in alcohol is apparently one of the best ways to protect them from danger, particularly from certain types of wasps. First, certain types of wasps prey on fruit flies by injecting eggs inside fruit fly larvae. Unless an infected larva kills the wasp egg, it hatches and the wasp larva eats its way out from inside the fruit fly larva, killing it. Apparently, fruit flies are not the only fly species to use alcohol to protect their young.

The most common is through electromagnetic conversion, where electricity is generated by moving an electric conductor, like wires, inside a magnetic field. The most practical example of this is a generator connected to a turbine. The turbine provides the motion required to move the conductor in the generator. For example, wind turbines, hydro, or the steam created from heat produced a nuclear fission or coal combustion. Finally, electricity can be created through solid-state conversion, where electricity is generated using the structure and properties of a solid. An example of a technology that utilizes solid-state conversion is a solar PV cell.

Before reversing direction, the summer solstice, the sun would appear at its highest point in the sky, and is the day with the longest period of daylight. The summer solstice in the northern hemisphere occurs around the 21st of June, but it does not always occur on this day. As it all depends on when the sun reaches its northernmost point from the celestial equator, it can happen between the 20th to the 22nd of June. This occurs because the earth's rotational axis is tilted. The earth rotates around an axis inclined at an angle of 23.5 degrees in relation to its orbital plane around the sun.

Frogs are a diverse and largely carnivorous group of short-bodied, tailless amphibians composing the order Anura. The oldest fossil proto frog appeared in the early Triassic of Madagascar, but molecular clock dating suggests their origins may extend further back to the Permian, 265 million years ago.

Frogs are widely distributed, ranging from the tropics to subarctic regions, but the greatest concentration of species diversity is found in tropical rain forests. There are approximately 4,800 recorded species, accounting for over 85% of extant amphibian species. They are also one of the five most diverse vertebrate orders. Besides living in fresh water and on dry land, the adults of some species are adapted for living underground or in trees. Adult frogs generally have a carnivorous diet consisting of small invertebrates, but omnivorous species exist and a few feeds on fruit. Frogs are extremely efficient at converting what they eat into body mass. They are an important food source for predators and part of the food web dynamics of many of the world's ecosystems. The skin is semipermeable, making them susceptible to dehydration, so they either live in moist places or have special adaptations to deal with dry habitats. Frogs produce a wide range of vocalizations, particularly in they are breeding season, and exhibit many different kinds of complex behaviors to attract mates, to fend off predators and to generally survive. Frog populations have declined significantly since the 1950s. More than one-third of species are considered to be threatened with extinction and over one hundred and twenty are believed to have become extinct since the 1980s. The number of malformations among frogs is on the rise and an emerging fungal disease, chytridiomycosis, has spread around the world. Conservation biologists are working to understand the causes of these problems and to resolve them. Frogs are valued as food by humans and also have many cultural roles in literature, symbolism and religion.

An essay is a chance to identify your read and learned. As a writer, you first need to collect many materials, then write an essay in four or five paragraphs, structures and quotes. If someone is searching for a book or article to read, he or she will decide from the very beginning whether this work is worth attention. If you want to wow your teacher, polish the introduction, especially the first couple of sentences. Add an essay hook—something interesting, funny, shocking, or intriguing to win the reader's attention. Build an emotional connection with your reader right from the start. A hook in the essay is a catchy sentence or paragraph in the impressive introduction which serves as an attention element and an important part. An excellent hook sentence is engaging and interesting; it is a perfect method to start an argumentative or persuasive essay. The hook for your essay often appears in the first sentence. The opening paragraph includes a thesis sentence. Some popular hook choices can include using an interesting quote, a little-known fact, famous last words, or a statistic.

We are from an organization called Nonhuman Rights Project, and we fight for legal rights of non-human animals. Drawing a line in order to enslave an autonomous and self-determining being is a violation of equality. We then searched through 80 jurisdictions. We chose the state of New York. Then we decided upon who our plaintiffs are going to be. We decided upon chimpanzees. We know the extraordinary cognitive capabilities that they have, and they also resemble the kind that human beings have. And so, we chose chimpanzees, and we began to then canvass the world to find the experts in chimpanzee cognition. So now we needed to find our chimpanzee. Our chimpanzee, first we found two of them in the state of New York. Both of them would die before we could even get our suits filed. Then we found Tommy. Tommy is a chimpanzee. Tommy was a chimpanzee. We found him in that cage. We found him in a small room that was filled with cages in a larger warehouse structure on a used trailer lot in central New York. And so, on the last week of December 2013, the Nonhuman Rights Project filed three suits all across the state of New York using the same common law argument. The court didn't approve our appeal because they think chimpanzees are not humans even though they have cognitive skills. We proved to the court that chimpanzees also have cognitive capabilities, and they were not hearing us. We wanted the chimpanzees out, and we wanted them brought to Save the Chimps, a tremendous chimpanzee sanctuary in South Florida which involves an artificial lake with 12 or 13 islands -- there are two or three acres where two dozen chimpanzees live on each of them. And these chimpanzees would then live the life of a chimpanzee, with other chimpanzees in an environment that was as close to Africa as possible.

Because of the economic model, the newspaper industry has been shrinking drastically from the last 50 years of the 20th century in some states of America. Also, as the economic model changed, newspapers increased the cash flow. However, there are still some newspaper industries losing money because of a decrease in advertising and buyers. They can't find buyers. Only a few newspapers have positive cash flow. Over 100 newspapers with cash flow in red had no money to publish the newspaper every day. Some of them published three days per week. Small-sized newspapers only published once a week and had to go online. Some newspapers even disappeared. The staff working in newspaper industry decreased by 30-60% or more.

About the similarities of children's past and present. Children lost their childhood in the 19th century in different situations. There was much children employment, which brought lots of risks to working children in society, such as sexual harassments and criminal events. They also suffered exploitation and high demand for the workload. Besides, children may be threatened on the street for destroying objects. Finally, society has changed, and commercials features and gender bias exposed children's personal lives to these negative factors. Because children always change a lot, manufacturing has developed some products specially for children, including pink products.

A leader can define or clarify goals by issuing a memo or an executive order, an edict or a fatwa or a tweet, by passing a law, barking a command, or presenting an interesting idea in a meeting of colleagues. Leaders can mobilize people's energies in ways that range from subtle, quiet persuasion to the coercive threat or the use of deadly force. Sometimes a charismatic leader such as Martin Luther King Jr. can define goals and mobilize energies through rhetoric and the power of example. We can think of leadership as a spectrum, in terms of both visibility and the power the leader wields. On one end of the spectrum, we have the most visible: authoritative leaders like the president of the United States or the prime minister of the United Kingdom, or a dictator such as Hitler or Qaddafi. At the opposite end of the spectrum is casual, low-key leadership found in countless situations every day around the world, leadership that can make a significant difference to the individuals whose lives are touched by it. Over the centuries, the first kind—the out-in-front, authoritative leadership—has generally been exhibited by men. Some men in positions of great authority, including Nelson Mandela, have chosen a strategy of “leading from behind”; more often, however, top leaders have been quite visible in their exercise of power. Women (as well as some men) have provided casual, low-key leadership behind the scenes. But this pattern has been changing, as more women have taken up opportunities for visible, authoritative leadership.

We are living through one of the greatest of scientific endeavours – the attempt to understand the most complex object in the universe, the brain. Scientists are accumulating vast amounts of data about structure and function in a huge array of brains, from the tiniest to our own. Tens of thousands of researchers are devoting massive amounts of time and energy to thinking about what brains do, and astonishing new technology, including computers and artificial intelligence, is enabling us to both describe and manipulate that activity. Humans can tell computers what to do and how to do, by giving the meaning of the certain words. Computers can operate as programmed, and develop systems and symbols. Computers work by analyzing messages into bytes, and this function is similar to human brains. Both human brains and computers are symbol processors, so computers have potential to bring artificial intelligence.

So, happiness economics can help us get to these questions, and I'll try to give you some examples of this. Now, even though there's a lot of skepticism, originally about using this survey - surveys what people say make them happy. The number of reason that we are getting increasingly confident in doing so. One is that their consistent pattern - remarkable consistent pattern, determines well-being

across large samples of people, across countries, across the world, and over time. Some of the basic things that make people happy, and I will show you some of these income health, marital status, employment status. Some of these very basic things are remarkably consistent across countries across world. So that gives us some sense that these surveys are picking up consistent patterns. And when we know what consistent patterns are, we can look how other things that very much more, affect people's well-being. The environment and equality, the nature's institution raging on living, and all kinds of other things that very much more.

Well, the 90s came around and finally it clicked that normal people could get online, which hadn't really clicked before. And the little trick that finally put it together was Tim Berners Lee HTML, so thank you to the UK for providing the fellow who finally put the missing link in place. And then what happened in the 90s was this extraordinary outpouring of creativity and constructiveness from millions and millions of people. There were millions of people making Web pages, creating content online, creating social experiments, creating lessons—all sorts of things. And the first decade of the web took place without much of a profit motive, without any particular charismatic figures driving it, without fear, without a desire for an afterlife or any other religious gambits, without advertising, without any of the traditional motivational schemes. It simply happened because people enjoyed it and it was a good idea.

Well, it's like, why is Australian housing is so expensive? Essentially, it's showing of how well the Australian economy has been doing over the last 15 years. We have had 15 years more or less of an uninterrupted economic growth during which average earning has been raised by close to 90 percent. While over the course of that period, the standard variable mortgage rate has roughly halved. That meant that the amount which a typical home buying household can afford to borrow under rules which aren't strictly applied as they used to be had more than doubled. Over the same period, rising immigration in falling average household size has meant that the number of households looking for accommodation has risen by about one and a half million. That's around 200 thousand more than the number of dwellings has increased by. So, you have had a substantial increase in the purchasing power of households. No net increase in the supply of housing enhances all that addition purchasing power has gone into pushing up the price of housing.

So various conclusions. Yes, bees are in decline. These declines are well-documented. They are real and supported by good, strong scientific evidence, which is the only of these counts. The drivers of decline on many varied depending on species. The effects of pollinator loss could be absolutely huge. So, is it a catastrophe? Not yet. But it could be. On the positive side, we are aware of the problem. Awareness is being raised all the time and people are taking actions. Before fixing is missing, you can recognize the problem. At least it's been done.

It turns out consumers are incredibly smart. They combine a lifetime of experience with that brand, combined with whatever its designed appeal is, how it makes them feel, performance and price. And they do all that in a few seconds. So, brands are essential to our business to allow us to deliver the increased consumer value associated with our products. We're not into the generic business of toilet paper. We're into probably about the softest product you're going to want to buy. We're not into a generic soap. We're into the best, you know, stain removing laundry detergent you're going to buy. But we're going to want you to remember that as the tide brand. Now, that means there's a second moment of truth. If they do select you and they pay 50% more than they would have paid for Walmart's brand, when they get home, it'd better perform when it's used. And here's where the science starts, folks. There's an amazing number of fundamental engineering contradictions, right? Airplanes deal with, you know, weight and strength. I want something that's light but strong. That's an

engineering contradiction. Once I deal with our things, got to be strong but soft. They have to be strong even when they're wet. Bright but not tear, liquids, mixtures, not common things, but they need... they can't separate. You don't want to shake before use, before you pour down in your washing machine.

In my view, it's impossible not to talk about wildlife, and not think about its role in livelihood. And I guess part of that is my own view, part of the research that I do in Africa. In most Eastern West Africa, I look at the role. All the humans rely on wildlife as the source of food, and also the source of income. And we talk about our wildlife, if we talking about fish, we are talking about what is probably the single most important source of protein for human that across the globe. And, so, billions of, or more than a billion of people rely on fish as their primary source of animal protein, and most of these people living in poverty. So the management of fish resource of wildlife in that sense causing incredibly important to livelihoods and health. And also, wildlife tourism is the multiple billion dollars' industry, and in many places, such as Africa, South America, it can be the No.1 source of income. It can be the No.1 source of foreign income for economies.

Through the 1950s and into the 1960s, the idea of the Industrial Revolution was that it was the work of some genius inventors who created machines used primarily in the textile industry but also in mining that eliminated blocks to assembly line production. Then everybody was crowded into factories and the new brave world opened up. In fact, one of the most interesting books and great classics that is still in print was written by an economic historian at Harvard who's still alive called David Landes. It's a good book called *The Unbound Prometheus*, which was basically that. Some of the inventions that I briefly describe in your reading, the spinning Jenny, etc., refer to that. Well, and that kind of analysis led one to concentrate on England where the Industrial Revolution began, and to view industrialization as beginning a situation of winners and losers by not going as fast. Now, that analysis has been really rejected greatly over the past years, because Industrial Revolution is measured by more than simply large factories with industrial workers and the number of machines. This is the point of the beginning of this. The more that we look at the Industrial Revolution, the more that we see that the Industrial Revolution was first and foremost an intensification of forms of production, of kinds of production that were already there. And thus, we spend more time looking at, you know, the intensification of artisanal production, craft production, of domestic industry, which we've already mentioned, that is people mostly women but also men and children, too, working in the countryside. The rapid rise of industrial production was very much tied to traditional forms of production.

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

But if you were to go to a library at the end of the 1300s, or through the 1400s, you would probably find a book that was then, way more popular than those titles we still read, a book that purported to be a description of the world, a guide the traveling and distant lands of BC area and Almanac of everything that was just off the horizon. I am not talking about Marco Polo. No, I'm talking about something far, far weirder and far, far less tethered to reality, a volume of medieval fantasy

masquerading as a field guide called *The Travels of Sir John Mandeville*, supposedly the titular knight set out from England in the 1330s and embarked on a journey that would take him to the Middle East, Africa and Asia, though as it will become apparent, not a Middle East, not in Africa and not an Asia that we would recognize here in reality. No Mandeville spoke is not really about actually real foreign lands. It's about what European's thought that was just outside the bounds of their civilizations. It's about what's beyond that mountain range that marks the borders of the lands you know. It's about what medieval people thought the foreign looks like. And all of it is mysterious, alluring, and intimidating unknown.

Globalization is an overused and often misunderstood concept. We hear it all the time on news broadcasts and in any type of public discussion. But the starting point for understanding globalization is that it is industries and markets that globalize, not countries. That's why it's helpful to think of globalization as 'the integration of economic activities across borders'. But why does globalization matter? I would argue globalization matters because it means the rise of interconnectedness between countries and markets across the world. For example, one of the reasons why the financial crash of 2007/2008 was so serious was because the financial and banking systems of countries around the world have become so closely interconnected with the globalization of markets.

To be a successful entrepreneur, you should have good ideas, but the definition of a good idea varies depending on whom you ask. A great idea should have several features. Firstly, the great idea should be various and novel. Secondly, the great idea should be unique, which means no one has thought about it. Thirdly, it is essential for great ideas to be transformative and productive. All ideas are essentially a combination of other smaller ideas, but this doesn't mean they can't be unique. Merely copying doesn't make anything idiosyncratic, it's the individuality that one puts in which makes a concept stand out. Constant innovation leaves no room for stagnation and thus, adds on to the basic idea, effectively making it unique. Unique ideas are inspired by basic things, they are simply extensions of pre-existing notions. And, an idea or a concept is unique only when it transcends its predecessor and serves its purpose in a better and more precise way.

Now we spend a lot of time thinking about how climate will affect crops. But crops affect climate themselves and they do this in two ways. First of all, about one-quarter of the land surface is used for growing crops. Another 10-15 % are used for pasture. So a substantial amount of the land surface is used in crop and agricultural production. And how we used that land affects our climate? If we were, for example, to deforest a substantial area and replace it with the annual crop such as soybean. Then we would alter the characteristics of the land surface, alter the way that water and heat flows from the land surface to the atmosphere and back, and ultimately change the regional climate if that is not enough to change the land surface. So, this is an absolutely fascinating topic and one that's really quite difficult to understand because of the complexity. It's difficult because it needs us as crops scientists to work even more closely with our climate scientist, colleagues. And it's difficult because we have to join our models together.

So, I think you all know what I mean by globalization, don't you? This is the idea that we all live in a global village. With instant communications, we can share ideas, and consume cultural artifacts from countries all over the world, just by going into the Internet and all dream up, basically. The world is shrinking. In terms of speeds, it is accelerating, but in terms of distance, it's shrinking. What do I mean by detraditionalization? I mean the disappearance or the erosion, for the better word to use, the erosion of traditional values, of conventional ways of doing things, of conventional moralities. More and more young people around the world are rejecting the culture they grow up in, and it's probably a

little bit cruel. But some imitating a Hollywood model of society, rather than the one which they inherit from their local tradition background. OK

So, faults are breaks in the earth's crust. We can identify them because of the discontinuity in the structure within the earth crust across faults. And earthquakes occur on these faults, so varied processes by which these faults move to a large extent is due to earthquakes. So, we have a fault plane and the earthquake is so focused on this fault plane. And the earthquake starts at the particular point on the fault plane and we call that the focus of the earthquake. The rupture propagates out from that point on the rupture plane to cover the entire fault plane. The rupture is in that particular earthquake. We talked about the epicenter of the earthquake a lot. The epicenter is just the surface projection of the focus of the earthquake. So, if you wanted to look at map view where the earthquake was located, we would be able to look that into the earth. We would see the focus down some depth in the earth or the epicenter just a point vertically above that focus at the surface of the earth. So, this is the relationship between the faults and the earthquakes.

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.

Listening - FILL IN THE BLANKS

Most patients with Type 2 diabetes should start taking statins, the cholesterol-fighting drugs, as a (Answer: preventative) measure against heart disease, whether or not they have high cholesterol levels, according to new guidelines released yesterday. The recommendations, from the American College of Physicians, call for moderate doses of statins by people with diabetes who are older than 55, and for younger (Answer: patients) who have any other risk factor for heart disease, like high blood pressure or a history of (Answer: smoking) . The new guidelines are outlined in April 20 issue of The Annals of Internal Medicine, in an article that noted that about 16 million Americans have Type 2 diabetes and that 800,000 new cases are (Answer: diagnosed) every year. The lead author of an article accompanying the guidelines, Dr. Sandeep Vijan of the University of Michigan, said that " almost everyone with Type 2 diabetes should be on a statin." The (Answer: average) age at diagnosis is 48, and even many patients under 55 have high blood pressure as well as diabetes, he said. Traditionally, diabetes treatment has (Answer: focused) on regulating blood sugar levels by careful control of (Answer: diet) or through insulin injections. But researchers have come to understand that control sugar really protects only against the destruction of small blood (Answer: vessels) , which can lead to blindness or loss of fingers, toes or limbs. Heart disease is, in fact, the more serious threat. Up to 80 percent of diabetes patients will develop heart problems or die of them, the article said. And Dr. Vijan emphasized that controlling hypertension remained the highest priority. He ranked control of lipids, the fats in the blood (Answer: stream) that can affect coronary health, second, ahead of glucose (Answer: regulation) .

Crime in the United States (Answer: accounts) for more death, injuries and loss of property than all Natural Disasters combined. The Disaster Center is pleased to be able to provide you with access to the statistics of crime (Answer: compiled) by the Federal Bureau of Investigation. When you experience a crime it can make you respond in ways that you might not understand. In that (Answer: crisis) situation you may react in ways that conflict with the (Answer: assumptions) you have created about your self. At the time of the crime you may feel a (Answer: sense) of helplessness, fear and anger. Afterward you may have a hard time relating the experience to the (Answer: context) of the assumptions of your life. A conflict often develops between your idea of the world before the crime and your idea of the world after the disaster. On top of this the (Answer: victims) and their relatives often experience financial problems, and time is often lost from work to handle the legal, insurance and personal problems associated with being a victim. The (Answer: trauma) associated with any crime often makes it hard for victims to cope with normal daily routines. And the victims of crime are frequently (Answer: blamed) by their friends for not being more careful. The trauma continues as victims of crime often find themselves ignored by law (Answer: enforcement) , and confused by the court system.

People rarely translate another person's (Answer: unique) way of saying things with any degree of (Answer: accuracy) . This is because when we learn the meaning of words, we pick up their broad meaning but we've added subtle (Answer: shades) of difference which we get from our personal experiences. If you grew up in an aggressive household, the phrase 'I'm angry with you' had different (Answer: associations) than for a person from a family where people talked through problems. We're left having to work out meaning from our own experience. So despite the fact that, say, Bob and Gina

are both speaking English, Bob is really speaking 'Bob-English' and Gina is turning that into 'Gina-English' and the (Answer: translation) is never going to be perfect.

To begin with, you should be standing in the main (Answer: floor) of the British Library. British Library situated in the Euston road next to some pipe crustacean press, in the foyer to the left of the (Answer: information) desk. It was a large white staircase. Follow this up towards the gallery at the top of the (Answer: stairs) pause and look to your left for attention. This is Robert Cotton, born in 1570, and died in 1631. Cotton was a member of parliament but he's mainly known as a great antiquarian (Answer: collector) of manuscripts. It is the covenant we have a great depth and the survival of many English manuscripts.

Have you ever wanted to turn down the volume at a deafening (Answer: concert) or noisy bar? Envy the whale: a new study finds that toothed whales can reduce their own auditory sensitivity when they expect a loud sound. The work is presented at this week's Acoustics 2012 meeting. Whales and dolphins rely on their responsive hearing to interpret returning echolocation clicks. Previous research suggested that these marine mammals could dull their hearing before uttering outgoing echolocation (Answer: clicks) , which are very loud. Could they use the same coping mechanism for (Answer: external) noises? To find out, researchers trained a false killer whale that a loud noise would always follow a brief warning (Answer: signal) . Then, they attached suction cup sensors to the outside of the whale's head and played the signal. The sensors (Answer: measured) brainwaves that indicated the whale did reduce its hearing sensitivity in expectation of a clamour. The researchers hope to test other species as well. Loud noises from ships can disturb whales. To accommodate (Answer: marine) life, perhaps vessels could emit signals before making a ruckus, warning whales to tune us out.

Well, I'm absolutely delighted first of all to have been (Answer: appointed) to this professorship. The role is going to be about public engagement in science, it is about marketing science (Answer: accessible) to as wide an audience as possible, it's about making it easier for our (Answer: academics) here at the University of Birmingham to talk about their research to the general public and it's not just about a one-way flow of information, it very much is about dialogue.

Well, the simple explanation might be that yesterday's (Answer: sudden) drop in share prices pretty much across the board has created what market analysts like to call a buying opportunity. It tends to bring out investors to pick through the ruins, looking for (Answer: bargains) . Decision by investors that sellers got a little carried away with things so the buyers have (Answer: lifted) all the major indexes today. The Dow, the NASDAQ, the S&P 500 were all up around half a percent in early trading today, and that wasn't a big surprise. The sell-off continued somewhat (Answer: overseas) European markets remain fairly weak, along with many of the Asian markets. But you'll remember that all this started with a big (Answer: plunge) of around 9 percent on the stock market in Shanghai. Well, Chinese rebounded by around 4 percent.

And one particular crop, almond in the US and now in Australia, is (Answer: transforming) the world of beekeeping and of bees. What has happened is that something serendipitous came along that people found out, that doctors found out that almonds are good for you, a (Answer: confection) but it's good for you. The Almond Board got a very aggressive promotion going on for almonds. They actually, I just heard recently, send out sales reps to (Answer: cardiologists) at hospitals to promote the heart benefits of almonds. In a very good promotion of almonds, and it's (Answer: legitimate) promotion because they are a healthy food.

Signs that secure borrowing remains (Answer: robust) and firm data on manufacturing and retail (Answer: sales) , released on Thursday, painted the picture of an economy that has yet to be cooled by the recent states (Answer: state) of interest rate rises.

Spanish police say they have (Answer: identified) the driver of the van that mowed down crowds walking along Barcelona's main tourist street last Thursday, killing 13 people. They haven't named him, but he's understood to be Younes Abouyaaqoub, a 22-year-old born in Morocco. Police say he may have (Answer: fled) the country. A South African court has given (Answer: permission) for an online auction of rhino horns despite a global trade ban. The authorities have tried to stop the 3-day auction. There's a great demand for rhino horns in Vietnam and China with their use in traditional medicines. The South African government has (Answer: confirmed) that it granted diplomatic immunity to Zimbabwe's First Lady, Grace Mugabe, enabling her to return home despite being (Answer: accused) of assaulting a model in Johannesburg. The government said it was imperative to (Answer: maintain) good relations with Zimbabwe.

Executive Vice President of the U.S. government's Overseas Private Investment Corporation, OPIC, David Bohigian and other U.S. government officials traveled to Armenia, Azerbaijan, and Georgia in August to (Answer: promote) U.S. investment in those countries. OPIC is the U.S. Government's development finance institution. It (Answer: mobilizes) private capital to help address critical development challenges and in doing so, (Answer: advances) U.S. foreign policy and national security (Answer: priorities) . On August 14th, the U.S. delegation met with Armenian Minister of Economic Development and Investments Artsvik Minasyan.

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.

Life in the UK 2012 provides a unique overview of well-being in the UK today. The report is the first snapshot of life in the UK to be (Answer: delivered) by the Measuring National Well-being program and will be updated and published annually. Well-being is discussed in terms of the economy, people and the environment. Information such as the (Answer: unemployment) rate or number of crimes against the person are presented alongside data on people's thoughts and feelings, for example, (Answer: satisfaction) with our jobs or leisure time and fear of crime. Together, a richer picture on 'how society is doing' is provided.

As with all human behavior, there are (Answer: numerous) reasons for it. But often it's caused by someone who feels the need to show their (Answer: superiority) over someone else, in order to feel that they aren't at the lowest level in (Answer: hierarchy) or a group of people. In some cases one person simply dislikes the other, on the (Answer: basis) that the personality of one is in some way (Answer: incompatible) with that of the other person.

My hero is Marie Curie. She was a Polish physicist and chemist working in France, and she did (Answer: conduct) pioneering research on radioactivity. She was also the first woman who won a Nobel prize. Marie Curie is my hero because she showed a lot of (Answer: determination) in following her career path and her (Answer: passions). She also showed a lot of (Answer: patience) in working for years to receive results from her experiments. And Marie Curie, she designed and built the first (Answer: mobile) X-Ray machines. She worked on the front lines of the first World War along with her (Answer: daughter) saving soldiers.

Two horrifying crimes have exposed serious (Answer: weaknesses) in Connecticut's criminal justice system. But a "three strikes and you're out" law (Answer: proposed) by Gov. M. Jodi Rell and Republicans in the Legislature would do more harm than good. Last July two recently paroled men broke into a home in Cheshire and tortured and (Answer: murdered) three people. Last month a man who served more than eight years for assaulting a 5-year-old — and had been out on (Answer: probation) for less than a month — broke into a New Britain home. He accosted two women, wounding one and killing the other. Republicans, led by Ms. Rell, have responded by calling for a "three strikes" law. Democrats have rightly resisted. The proposed law, which would mandate life in prison for anyone (Answer: convicted) of three violent felonies, is a bumper-sticker solution that would create (Answer: injustices) by barring judges' discretion in sentencing. It would also not deter the many crimes (Answer: committed) by people who have not committed three violent felonies. Governor Rell and the Democrats do agree on the need for other (Answer: urgent) reforms, including more re-entry programs and jobs training and better monitoring after prisoners are released on probation and parole. Connecticut has 2,500 parolees, but a (Answer: staggering) 55,000 people on probation. Probation officers handle an average of 107 cases each — far too many. Connecticut's system for sharing crime information, which could keep some of the most dangerous offenders off the streets, is antiquated. It has neither inpatient treatment for sex offenders nor housing for them once they are released. Hundreds of (Answer: former) inmates are on a waiting list for inpatient drug

treatment. The suspect arrested in the New Britain case had been staying in a homeless (Answer: shelter) at night but roaming freely during the day while waiting to begin (Answer: outpatient) sex offender treatment. Returning released inmates to society with so little support makes no sense.

We miscommunicate more commonly than we communicate (Answer: accurately) . Often, the words we have are at least (Answer: somewhat) inadequate to express how we feel. The first words we think of are often poor (Answer: reflections) of what we really mean. We might at times even want to take our words back for a second (Answer: attempt) . But once those words have left our mouths, our partners are already (Answer: replying) to whatever we have just said. Most conversations happen too fast to allow us to (Answer: figure) out what we really meant to say.

For the first time, Japanese researchers have conducted a real-life experiment that shows how some traffic jams appear for no apparent reason. They placed the 22 vehicles on a (Answer: single) track, and asked the drivers to cruise around at a (Answer: constant) speed of 30 kilometers an hour. At first, traffic moves smoothly, but soon, the distance between cars started to (Answer: vary) and vehicles clumped together at one point on the track, but the jams (Answer: spread) backward around the track, like a shockwave at a rate of about 20 kilometers an hour. Real-life jams move backward at about the same speed.

Higher interest rates have knocked investors (Answer: confidence) in putting their money into property, evidence suggests. The (Answer: insurance) company standard life says that the rate rises since last summer have led more people to question the wisdom of property (Answer: investment) .

Environment problems caused by hard rock mining involve water pollution by metals themselves, chemicals used in processing, acid (Answer: drainage) and sediment. Metals and metal-like elements in the ore are (Answer: toxic) and prone to cause trouble by ending up in nearby (Answer: streams) and water tables as a result of mining operations.

Social harm originates out of a series of (Answer: debates) within criminology about the narrowness of the definition of crime, that essentially, focuses on individual acts of harm, things like interpersonal violence, theft, so on and so forth. So the idea of social harm (Answer: originally) was to expand that notion of harm to encompass the harms that organisations and nation states cause. But latterly the idea of social harm really now transcends criminology so there are a group of (Answer: writers) who think that—and I would include myself there—that actually there's something to social harm that could be very useful in terms of trying to understand the harms that (Answer: occur) within society, to produce an objective and well-rounded analyses of harm.

Spring wedding season has arrived, ushering in hefty costs for guests — and especially for members of the wedding party. But it can be hard for twenty somethings to fit (Answer: extra) costs into scant budgets, especially if you have multiple weddings to attend. So be sure to determine what you are (Answer: signing) up for before committing to be part of the ceremony or a guest at a destination wedding — and look for ways to (Answer: trim) costs. If you are asked to be part of a ceremony, don't (Answer: hesitate) to ask the bride and groom upfront for details including the event's location and other (Answer: functions) they may expect you to attend. In return, be honest with them about your (Answer: financial) situation. Colleen Bayus, 24, attended four weddings last year, traveling from Washington to Boston, Pittsburgh and Philadelphia a total of seven times for dress fittings, bachelorette parties and the ceremonies. "It really (Answer: added) up ... I had to tell my friend in Boston that I didn't have the money to attend her bachelorette party in Manhattan," she says. If you know you can't afford to fly to a (Answer: destination) wedding in the Caribbean plus a weekend bridal party in Miami, speak up from the beginning, says Susan RoAnne, a networking and (Answer: etiquette) expert in San Francisco. "It's fair to say 'I love you, but I don't want to shortchange you if I can't afford to (Answer: participate) in every aspect,'" she says.

However simple or complex the chain of events in any given situation, when looked into it usually reveals a train of (Answer: causal) relationships - they are seen to be (Answer: linked) in some way. The methods of analysis aim to establish these relationships and provide a solid background for useful (Answer: generalizations) based on what at first appear to be separate events. The first step in this process is to collect facts and then see if any particular (Answer: patterns) emerge. If they do, it then becomes possible to form theories related to the facts, and this type of empirical theory forms a useful basis for (Answer: analysis) and prediction. However, on its own this theory is not enough; the essential second step is to test it by collecting more facts and by checking predictions against events. These new facts may mean you have to (Answer: modify) the theory, bearing in mind that new facts can only either disprove or (Answer: support) a theory - they cannot prove it to be right.

The proportion of greenhouse gases has increased significantly since the Industrial Revolution. Humans began burning fossil fuels, particularly (Answer: coal) , in a big way, to drive steam engines for industry, and generate electricity. In addition to escalating coal use after the Industrial Revolution, there came the (Answer: widespread) use of another fossil fuel, petroleum for transport. At the beginning of the 20th century, annual global oil output was about 150 million barrels of oil; now, that amount is (Answer: extracted) globally in just two days. Fossil fuels are classed as non-renewable sources of energy, formed from (Answer: decayed) plants and animals over hundreds of millions of years. Burning fossil fuels (Answer: releases) billions of tons of carbon dioxide that has been locked away away in the Earth for millions of years. Humans are (Answer: adding) billions of tons of carbon dioxide to the atmosphere each year. And guess what? Carbon dioxide is a greenhouse gas. The (Answer: rate) at which the planet is warming is possibly the biggest challenge to ever face humanity. The (Answer: impacts) are likely to be devastating, we need to act (Answer: decisively) , and act now. A single web page cannot fully answer the question of what global warming is. Following the links on this page will allow you to see how complex and serious the (Answer: issue) of global warming is. So what is global warming? It is a disaster of our own making.

U.S. Secretary of State Mike Pompeo met with Indian Foreign Secretary in Washington Monday and told him that the United States stands with India in fighting (Answer: terrorism) . After their meeting, the State Department said the two discussed the importance of bringing to (Answer: justice) those responsible for a suicide attack on an Indian paramilitary convoy (Answer: claimed) by Pakistan-based militants. The State Department said the (Answer: diplomats) spoke of "the urgency of Pakistan taking meaningful action against terrorist group operating on its soil." Last month, a suicide bomber killed 40 Indian paramilitary troops in a convoy in the disputed Kashmir region. A Pakistan-based militant group claimed responsibly for that violence. New Delhi has vowed to punish Islamabad for (Answer: sheltering) the militants, saying the Indian army chief has been given a "free hand" to take whatever action is required.

Interesting sound. I would have guessed a Wild West performer was (Answer: practicing) with a bullwhip while also vacuuming. But no. That sound is apparently produced by the aurora borealis, the northern lights. Since 2,000 researchers at Finland's Aalto University have been (Answer: collecting) audio, as part of what's called the Auroral Acoustics project. Folk tales have long held that the lights also produce odd sounds, but the claims were hard to prove. And some researchers thought that any noises produced by the (Answer: energetic) particles, that cause the light show would be far too high in the sky to be heard on the ground. But the latest results indicate that at least some sounds are produced very close to the ground. A setup of three ground-based (Answer: microphones) allowed researchers to estimate that the sounds occur perhaps just 70 meters up. The results were just presented at the International Congress on Sound and Vibration in Vilnius, Lithuania. More information about the sounds of the northern lights could lead to a more complete understanding of the (Answer: phenomenon) . So if you see an aurora, keep your ears open

This year marks the 400th anniversary of the first (Answer: permanent) English settlement in America. A group of Englishmen, including John Smith, who (Answer: later) was befriended by Pocahontas, built a (Answer: fort) at Jamestown, Virginia in 1607, 13 years before the Pilgrims crossed the (Answer: Atlantic) on the Mayflower. And for the past 14 years, Bill Kelso has been working to (Answer: uncover) the secrets of Jamestown.

Well, the simple explanation might be that yesterday's (Answer: sudden) drop in share prices pretty much across the board has created what market analysts like to call a buying opportunity. It tends to bring out investors to pick through the ruins, looking for (Answer: bargains) . Decision by investors that sellers got a little carried away with things so the buyers have (Answer: lifted) all the major indexes today. The Dow, the NASDAQ, the S&P 500 were all up around half a percent in early trading today, and that wasn't a big surprise. The sell-off continued somewhat (Answer: overseas) European markets remain fairly weak, along with many of the Asian markets. But you'll remember that all this started with a big (Answer: plunge) of around 9 percent on the stock market in Shanghai. Well, Chinese rebounded by around 4 percent.

Every year, about 10 million tons of paper winds up in American landfills and incinerators, which is not only wasteful but adds CO2 to the (Answer: atmosphere) . Recycling helps, but even that material

has to be repulped and paperized before you can use it to print out that recipe you'll never make. But what if you could wipe the page clean and use it again? Light amplification by simulated emission of radiation to the rescue. A new study shows that laser light can (Answer: erase) the toner from a piece of printed paper. The approach appears in the Proceedings of the Royal Society A. Taking a page from the art restoration handbook scientists sampled a variety of light sources to see if any could be used to strip the ink from laser printed documents without damaging or discoloring the paper. UV and infrared were too harsh. But a bright green laser applied in 4 nanosecond pulses vaporize the print, leaving paper that looks as good as new. Such imprinters will probably run about 30,000 bucks, so they probably will not catch on for home use. But people in the recycling world might find that the green laser fits the (Answer: bill) for making paper that's really green.

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 corona virus 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.

Good evening, ladies and gentlemen. My theme for this (Answer: session) is convergence Technology Change and Business Practice. This is somewhat dear to my heart, in that I have spent much of the last fifteen years involved in various (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.

The New South Wales government has {apologized} for yesterday's transport chaos in and around Sydney Harbor during the visit of the Queen Mary II and the Queen Elizabeth II. Roads were jammed, traffic ground to a halt while tram and {ferry} services were swamped with thousands of additional passengers, with most services delayed for hours. Premier Maurice Hurst says that plans were put in place to "deal with the congestion" but the number of visitors well exceeded {expectations}. On the harbor itself there seemed to be as much congestion as there was on the roads, but everyone agreed it was an amazing {spectacle}.

You might picture Neanderthals as cavemen gnawing on bones around a campfire. Which wouldn't be {inaccurate} But Neanderthals may have also dined on roasted vegetables and known a bit about medicinal plants too. So says a study in the journal Naturwissenschaften (The Science of Nature). Researchers {analyzed} hardened dental plaque from five Neanderthals found in El Sidrón cave, in northern Spain. Yes, 50,000-year-old dental plaque. And they found a lot lurking between the teeth.

Like evidence of nuts, grasses and green veggies, {chemical} traces of wood smoke, and tiny, intact starch granules, proof Neanderthals ate their carbs. And in one individual, they detected compounds found in the {medicinal} herb's chamomile and yarrow. The herbs have no nutritional value, and since Neanderthals did have the gene to detect the herbs' bitter taste, the researchers {speculate} that the cave dwellers were munching on them not as food—but to self-medicate. Not too far-fetched, they say, because primates like chimps also use medicinal plants. Luckily for the scientists doing this {detective} work, Neanderthals may have known a thing or two about medicine, but they didn't get regular check-ups at the dentist.

Some interesting facts about the great reptilian fossils recently discovered in Wyoming and Colorado have come to light. The bones {found} represent reptiles of many sizes, from that of a cat up to one sixty feet high. The latter, found at Como, Wyoming, belonged to the crocodile order; but the remains give {evidence} that the animal stood up on its hind legs, like a kangaroo. Another found in Colorado is estimated to have been 100 feet long. A great many remains of the same general class, but belonging to different species, have been collected and sent East. Among them from three to four hundred specimens of the dinosaur, and about a thousand pterodactyls, have been shipped from Colorado, Wyoming, and Kansas. The wings of one of the latter were from thirty to forty feet from tip to tip. Seventeen different species of these flying dragons have been found in the chalk of western Kansas. There have also been found six species of toothed birds. Comparatively little has been done toward classifying the late finds, and the task is such an {enormous} one. Great importance is attached to them, however, since nothing of the kind had been found in America until a little over a year ago and great {stress} had been laid by certain geologists on their absence. Another remarkable feature of the discovery was that the fossils which had been reported as not existing in this country had hardly been brought to light in one locality before thousands of tons of them were simultaneously discovered in half a dozen different {places}.

Signs that secure borrowing remains {robust} and firm data on manufacturing and retail {sales}, released on Thursday, painted the picture of an economy that has yet to be cooled by the recent states {spate} of interest rate rises.

A new process for 3D-printing things could pave the way for lighter, faster aircraft that {potentially} fly further on the same amount of fuel. Today's aeroplanes are held together with thousands of metal rivets and fasteners. That's because the lightweight but strong {aluminium} alloys used for their frames are considered unweldable. Try to weld them and you get a phenomenon called hot-cracking, in which the finished alloy weakens and {fractures} as it cools. This and other adverse welding effects also stand in the way of 3D-printing high-strength aluminium alloy parts. When researchers have tried, the resulting laser-fused mass {flakes} away at the welding area like a stale biscuit.

Dave Hackenberg, a beekeeper since 1962, can usually tell what killed his bees just by looking at them. If they're lying on the {ground} in front of a hive, it's probably pesticides, he says. If the bees are {deformed} and wingless, it's probably vampire mites. But last fall, Hackenberg saw something

he had never seen before. Thousands of his bee colonies simply {disappeared}. He was in Florida at the time, pulling the lids off some of his commercial hives. To his {horror}, they were all empty.

Obviously, this is all relevant to your final {assignment}. So, we're going to talk about it. So, until today, we've gone through face-to-face interviews as the main sort of part of interviewing the window. Today we're going to have a look at going to use an email and why they work, why they don't necessarily work, and what are the {challenges} and some of the things that we need to be understanding, you know when we are completing such interpreters. So, let's start with the foreign one. Obviously, there are a few {benefits} to them, and they are listed there up on that slide. It's obviously less stressful for those of you who might be a little bit {anxious} about interviewing.

Well, the simple explanation might be that yesterday's {sudden} drop in share prices pretty much across the board has created what market analysts like to call a buying opportunity. It tends to bring out investors to pick through the ruins, looking for {bargains}. Decision by investors that sellers got a little carried away with things so the buyers have {lifted} all the major indexes today. The Dow, the NASDAQ, the S&P 500 were all up around half a percent in early trading today, and that wasn't a big surprise. The sell-off continued somewhat {overseas} European markets remain fairly weak, along with many of the Asian markets. But you'll remember that all this started with a big {plunge} of around 9 percent on the stock market in Shanghai. Well, Chinese rebounded by around 4 percent.

For all his fame and celebration, William Shakespeare remains a {mysterious} figure with regards to personal history. There are just two primary {sources} for information on the Bard: his works, and various legal and {church} documents that have survived from Elizabethan times. Naturally, there are many {gaps} in this body of information, which tells us little about Shakespeare the man.

The effect of the first difference is, on the one hand, to refine and {enlarge} the public views, by passing them through the {medium} of a chosen body of citizens, whose {wisdom} may best discern the true interests of their country, and whose {patriotism} and love of justice will be least likely to sacrifice it to temporary or {partial} considerations. Under such a regulation, it may well happen that the public voice pronounced by the representatives of the people, will be more consonant to the public good than if pronounced by the people themselves, convened for the purpose."

HIGHLIGHT INCORRECT WORDS

In vitro **prolongation** (Answer: **fertilization**) efforts can be helped by, oddly enough, oral contraceptives. That's the finding from Tel Aviv University, site of the largest study on using birth control to help IVF. One of the **antonyms** (Answer: **challenges**) to IVF is timing. Current hormone treatments to stimulate ovulation have to coincide with a particular moment in the woman's cycle. Not knowing the exact timing for scheduling the egg retrieval and fertilization can be stressful, which can lower the odds of success. In the Tel Aviv study, researchers looked at women who **led** (Answer: **underwent**) a 12-to-17-day treatment of oral contraception. The women were checked to make sure there was absolutely no activity in their ovaries or uterus. Then they began stimulation hormones to start the clock. Women who went through this **carryall** (Answer: **protocol**) had similar numbers of pregnancies to a control group that didn't use birth control. Which means that oral **valediction** (Answer: **contraception**) didn't harm their ability to conceive. The researchers say that this treatment demands a slightly longer cycle and higher levels of ovulation-inducing hormones. But they also say it could allow couples to more accurately plan for procedures, which might give couples more peace of mind.

Music, film and video game makers face a new online, digital world. And some are testing a **spindly** (Answer: **revolutionary**) pricing system: "pay what you want." But a new study finds that when consumers can name their own price, many may opt out of buying at all. The study is in the **ceaseless** (Answer: **Proceedings**) of the National Academy of Sciences. For the research, tour boat passengers posed for photos. Each boat ride **dumfound** (Answer: **announced**) a price of \$15 per picture. But they then charged either \$15, \$5 or the option to pay what you want. As expected, the fewest tourists purchased photos when they had to pay full price. But more **circuses** (Answer: **customers**) bought photos when they cost \$5 than when prices were pay what you want—which could have saved passengers even more. The researchers suggest that choosing to pay less than an announced **crescent** (Answer: **lower-than-expected**) price made people feel cheap. With choices then limited to spending more money or feeling like a tightwad, potential customers simply opted out of the purchase. So on sea or land, a low, set price may catch the most fish.

Companies spend **intuitions** (Answer: **billions**) on advertising every year. But they're not just pushing products—they're selling their brand's "personality," too. Think: Red Bull. What comes to mind? Most people say things like speed...power...hyper...extreme. Well, a pair of scientists wanted to see if the energy drink's alleged qualities would **contiguous** (Answer: **influence**) people's performance in a racecar video game—without sipping Red Bull. So they had 70 volunteers race cars with identical specs, but different paint jobs. Four with the logo and colors of a drink—Guinness, Tropicana, Coca-Cola or Red Bull—and one car just plain green. The drivers clocked similar times with most of the cars. But behind the wheel of the Red Bull car, they **analogously** (Answer: **actually**) drove more aggressively, scoring either incredibly fast race times, or their slowest—by driving recklessly and crashing. The study appears in the Journal of Consumer Psychology. Polled after the game, the players didn't realize the Red Bull image apparently **phosphoenolpyruvate** (Answer: **influenced**) their driving. Which suggests marketing doesn't just influence a brand's personality. It could be shaping our personalities, too, without our even knowing it.

English had barely established itself as a language in England when it began **spreading** (Answer: moving) to other countries to be used there as well. First it **passed** (Answer: headed) north to Scotland and then west to Wales. It then made its **path** (Answer: way) across the sea to Ireland. That was in the Middle Ages. Over the course of the following centuries it has put down roots all over the **earth** (Answer: world), from the USA to South Africa, from India to New Zealand. Of course, in all these **places** (Answer: countries) it has developed in special ways to suit the new **concepts** (Answer: contexts) in which it found itself.

For some people, this **presentation** (Answer: proposition) may seem far fetched, but ending poverty is both **ethically** (Answer: morally) necessary and actually feasible. All of us must play a role in making it happen. All human beings want, and have a **way** (Answer: right) to live in dignity, to determine our own destinies, and to be respected by other, by other people. Despite the universality of **three** (Answer: these) rights, our capacities to fulfill them vary enormously, and no **divining** (Answer: dividing) line is more profound in influencing the quality of our lives than the gulf between poverty and prosperity.

To keep your car purring, you have to change the oil. Such maintenance **boogers** (Answer: produces) eight billion gallons of used motor oil annually. Some waste oil does get re-refined to produce oil for lubrication or heating. And some just gets dumped. So it would be more environmentally friendly and provide fresh fuel if we could convert the old motor oil to something really valuable: new gasoline. And that's what a **clad** (Answer: research) team thinks they've done. They **freshened** (Answer: presented) their work at the annual meeting of the **gentleman** (Answer: American) Chemical Society. Their approach involves pyrolysis, decomposing organic **decennial** (Answer: material) with heat in the absence of oxygen. Pyrolysis can break down waste oil into gases, liquids, a little bit of solids. The gases and liquids can be converted into gas or diesel. But **visceral** (Answer: conventional) pyrolysis methods don't do a great job with motor oil. The new technique mixes the oil with a material really good at absorbing microwave radiation. Tests showed that heating this mixture with microwaves was about 90 percent efficient at creating precursors to fuel—which beats tossing the oil down the drain.

The 2011 Nobel Prize in Physics goes to Saul Perlmutter at the Lawrence Berkeley **nontransferable** (Answer: National) Lab, Brian Schmidt at the Australian National Lab and Adam Reiss at Johns Hopkins. The Royal Swedish Academy's Olga Botner: "In a universe which is dominated by matter, one would expect gravity eventually should make the **draftsman** (Answer: expansion) slow down. Imagine then the utter **subcontinent** (Answer: astonishment) when two groups of **silences** (Answer: scientists) headed by this year's Nobel **nosiness** (Answer: laureates) in 1998 discovered that the expansion was not slowing down, it was actually accelerating. By **tilting** (Answer: comparing) the brightness of distant, far-away supernovae with the brightness of nearby supernovae, the scientists discovered that the far-away supernovae were about 25 percent too faint. They were too far away. The universe was accelerating. And so this discovery is **special** (Answer: fundamental) and a milestone for cosmology. And a challenge for generations of scientists to come."

In last week's pre-Christmas rush, the U.S. Congress slammed together the \$1-trillion federal budget bill for 2015, just before funds ran out. But the bill wasn't all about the money. Congress took advantage of the fiscal scramble to change rules about the environment and energy, which do not belong in appropriation bills. Normally such changes are encoded in what are called "laws," and are debated out in the open. But the budget bill is a chance for Congress to slip in controversial rules—called riders—without much debate. If members object, the bill stalls, and the government shuts down—and no one wants to be blamed for that fiasco. So the riders gallop in. The Environmental Protection Agency got its budget, for instance, but with strings attached: although agriculture is a major source of atmospheric methane, the EPA now is **vigilant** (Answer: prohibited) from using its money to require farmers to report greenhouse gas emissions. And the agency cannot regulate farm ponds and irrigation ditches under the Clean Water Act. In another example, the Department of **canker** (Answer: Agriculture) must speed up permits for companies making genetically **night** (Answer: modified) organisms. And the feds must loan money to firms to build coal-fired power plants overseas. That requirement **floggings** (Answer: reverses) a previous ban. These rules and others last through September 2015, when this budget bill runs out. And then, if history is any guide, the whole stealth legislation process will start all over again.

Imagine van Gogh's **copulative** (Answer: paintings) of yellow sunflowers. Now imagine the flowers brown. Eh, not so good. Sadly, we may someday see what that would look like. Because the bright yellow paints on the canvas are slowly turning muddy. Now, an **graspable** (Answer: international) team of scientists has pinpointed the chemical reaction that drives this degradation—the first step toward stopping it. Their findings appear in the journal Analytical Chemistry. Van Gogh's use of strong bright colors to convey mood and emotion marks a major **epitome** (Answer: milestone) in art history. And his Sunflower series wouldn't be the same without the vibrant "chrome yellow" pigment that was new at the time. But this color darkens when exposed to the sun. To find out why, researchers used x-ray **concedes** (Answer: analyzes) to determine the exact chemical composition of the paint as it browns. First, they exposed three tubes of chrome yellow to UV radiation until one turned a chocolate color. **surviving** (Answer: Analyzing) that sample, they identified specific changes in the paint's chromium compounds. They then found the same chemical signature in the darkened areas of two van Gogh paintings. Until a chemical **overload** (Answer: antidote) is found, the researchers have some ironic advice: keep sunlight away from van Gogh's sunflowers.

For some reason, every year a few dozen runners dash from **sudden** (Answer: southern) Italy all the way to the North Cape of Norway, in what's called the TransEurope-Footrace. It takes about two months to cover the almost 2,800 miles, about 45 miles a day. In the 2009 edition 44 of the 66 **surreptitiousness** (Answer: participants) allowed **prevents** (Answer: themselves) to be examined medically throughout. The **enterprises** (Answer: findings) were **expectant** (Answer: presented) November 29th at the annual meeting of the Radiological Society of North America in Chicago. And some of the discoveries may be of use to the less ambitious among us. Muscle volume of the legs actually went down 7 percent because of the incredible energy consumption of the daily distances.

And some leg injuries were found to be safe to run through. It was okay to keep going with simple leg muscle inflammation, for example. But other overuse injuries, like joint inflammation, carried a greater risk of worsening. Runners lost 40 percent of their body fat in the first half of the race and 50 percent altogether. Beginning runners can likewise expect to see a rapid fat loss at first. And you get to stop before reaching Norway.

Take a deep breath. Taste anything? Actually, your lungs may. Because scientists have discovered that the same receptors that exist on the tongue to taste bitter **thermometers** (Answer: substances) are also found on the smooth muscle of the lungs. Researchers were studying the receptors on smooth lung muscles that regulate contraction and relaxation of the airways. That's when they made the discovery—which was so unexpected that the researchers themselves were skeptical. Finally, they became convinced that the receptors were really there, though not **ruptured** (Answer: clustered) in taste buds as they are on the tongue. The scientists then exposed human and mouse airways to various bitter **knockouts** (Answer: compounds) to gauge the effects. Many toxic compounds are bitter, so the researchers **lifted** (Answer: expected) the lung muscle to tense up and contract—to compel the breather to move away from whatever was bitter and perhaps toxic. But, in a second surprise, bitter compounds relaxed and opened airways better than any existing asthma drug. The study is in the journal *Nature Medicine*. Researchers will continue to search for the role of the receptors. Meanwhile, the work **pits** (Answer: represents) a surprising new lead in the search for drugs to treat asthma, emphysema or chronic bronchitis.

When the first shots were fired at JFK's motorcade, police couldn't **disobediently** (Answer: immediately) locate the gunman based on sound alone. Today, the technology exists for them to do it with their smartphones, less than a second after the first shot. Here's how. Most bullets travel at supersonic speeds, **salesmen** (Answer: generating) a shock wave along their path. To track that path, researchers built a small bluetooth sensor for smartphones. The sensor uses four mics to measure the shock wave's angle, and its time of arrival. Then each phone **receptors** (Answer: networks) with nearby phones to triangulate the sniper's location, mapping it on the smartphone screen within a second of the gun blast. Researchers tested the system with an AK-47, and were able to calculate the shooter's bearings with less than seven degrees of error, and get a decent **breadbasket** (Answer: estimate) of his range. They **injected** (Answer: presented) the method at the Conference on Information Processing in Sensor **nonreligious** (Answer: Networks) in Philadelphia. Since the system **stifles** (Answer: requires) at least two phones to work, researchers say it would be ideal for a security force fanned out around a likely target—allowing them to respond to threats almost as fast as a speeding bullet.

When Harry Potter slips underneath his **ascendency** (Answer: invisibility) cloak, he can wander freely, undetected. But what about a cloak of silence, one that completely deadens sound? That's just what scientists from Spain's University of Valencia have designed, on a tiny scale. They wrote about their research in the *New Journal of Physics*. A paper published last year showed how such a cloak could be made in theory—researchers **wrote** (Answer: proposed) using materials made up of what are called sonic crystals. These are solid cylinders that can scatter sound waves. The Spanish scientists wanted to figure out the specs to make a real acoustic cloak that could totally reroute sound around a given object. According to their models, it would take about 200 layers of the sound-silencing

materials to make it completely **transients** (Answer: impervious) to sound waves. They also think that they'll eventually be able to get the same effect with a thinner cover. Among the first **waiters** (Answer: applications) could be a silent coating for naval ships, so that they're rendered invisible to sonar. But even more important could be wall **surpluses** (Answer: coverings) that would finally protect your ears from those annoyingly noisy neighbors.

You can talk to teens all you want about sex. But if you want to drive home healthy messages about consent, maybe you should have them watch: "In the Criminal Justice system sexually-based **frontbenches** (Answer: offenses) are considered especially heinous..." Law & Order: Special Victims Unit. Really. Compared with other TV shows, anyway. Because a study finds that college **juleps** (Answer: students) who watched episodes of the various Law & Orders had a better understanding of sexual consent issues than those who watched two other crime procedural franchises, NCIS and CSI. The research is in the Journal of Health Communication. For the study, researchers asked more than 300 college freshmen if they agreed or disagreed that if a woman is raped she is at least somewhat responsible, a concept called rape myth acceptance. The students were also asked about their intentions to seek consent for sexual **epitome** (Answer: activity) and their intentions to refuse sexual activity. The results: the college students who watched ripped-from-the-headline Law & Order versus the other shows had stronger views about consent and were less likely to accept rape mythology. Watching CSI, where the victim is often dead and treated as another piece of evidence, was **misplacement** (Answer: associated) with lowered intentions to seek consent and a greater acceptance of rape myths. Exposure to the NCIS franchise was associated with **sheep** (Answer: decreased) intentions to refuse unwanted sexual activity. Previous research found that the Law & Order shows directly challenge myths and stereotypes related to sexual assaults. While CSI has been criticized for plotlines that reinforce rape myths. So it turns out **trapping** (Answer: watching) those shows—at least for college-aged kids—may have some effect on sexual consent intentions and behavior. And when it comes to Law & Order, that effect could be positive.

Back in ancient times, **intangibles** (Answer: philosophers) like Aristotle were already speculating about the origins of taste, and how the tongue sensed elemental tastes like sweet, bitter, salty and sour. "What we discovered just a few years ago is that there are regions of the brain—regions of the cortex—where particular fields of neurons represent these different tastes again, so that's a sweet field, a bitter field, a salty field, etcetera." Nick Ryba, a sensory neuroscientist at the National Institutes of Health. Ryba and his **anatomies** (Answer: colleagues) found that you can actually taste without a tongue at all, simply by stimulating the "taste" part of the brain—the insular cortex. They ran the experiment in mice with a special sort of brain implant—a **operatic** (Answer: fiber-optic) cable that turns neurons on with a pulse of laser light. And by switching on the "bitter" sensing part of the brain, they were able to make mice pucker up, as if they were tasting something bitter—even though absolutely nothing bitter was touching the tongues of the mice. In another experiment, the researchers fed the mice a bitter flavoring on their tongues—but then made it more palatable by switching on the "sweet" zone in the brain. "What we were doing here was adding the sweetness, but only adding it in the brain, not in what we were giving to the mouse." Think adding sugar to your coffee—but doing it only in your mind. The results appear in the journal Nature. Ryba says the study suggests that a lot of our basic judgments about taste—sweet means good, bitter means bad—are actually hard-wired at the level of the brain. As for that virtual-sugar-in-your-coffee idea? "I think it's

basically science fiction to think that this would be something that would be applied to humans." But today's science fiction might be tomorrow's **skittle** (Answer: artificial) sweetener.

A new **graphical** (Answer: archaeological) find may signify one of the great leaps in human cultural and cognitive history. Because researchers have discovered a 100,000-year-old art studio. It was known that ochre—rock with red or yellow pigments—was used for paint even that far back in history. But there was scant evidence for how it was prepared and handled. Then, in 2008, researchers uncovered an ochre mixing kit in a South African cave. They found two abalone shells, most likely used for paint mixing and storage. They also found ochre, bone, charcoal, grindstones and hammerstones. The researchers say the ochre was **angrily** (Answer: probably) rubbed on quartzite slabs to create a fine powder. It was then mixed and heated with other crushed substances, including other stones or mammal-bone. **inotropic** (Answer: Microscopic) striations on the inner abalone surface are likely scrape marks left during paint mixing. The research was published in the journal Science. The paint may have been used for body adornment or for long-gone artwork. And the **editions** (Answer: presence) of this paint-production laboratory indicates that the early humans knew basic chemistry and could plan for the future. One small paint-kit for a few humans, one major leap for humankind.

It's tough to pick a familiar face out of a crowd—but focusing on a known voice in a noisy room is easy. And a new study scanned volunteers' brains to look at how we solve the so-called cocktail party problem. The work is in the journal Nature. Researchers **longhand** (Answer: recorded) the activity of the subject's cerebral cortexes while playing them **paragons** (Answer: sentences) spoken by **militant** (Answer: different) voices. First, the subjects listened to **transmissible** (Answer: individual) sentences and reported key **cleavers** (Answer: features) of each one. Then, they heard two different sentences played at the same time, but had to listen to and recall details from only one voice. Each voice drew a **missioner** (Answer: particular) response from the **preparatory** (Answer: auditory) cortex. And even with an extra sentence playing simultaneously, researchers saw that the cortex responded specifically to the voice that the subject was focusing on. This finding indicates that our brains process sound based not only on the audio input they receive, but also on our listening goals. And it could lead to speech recognition systems that are accurate in crowds — even at a cocktail party.

A direct effect on human health related to climate change is the likely increase in **fearless** (Answer: infectious) diseases transmitted by insects or through contaminated water. In the March 25th issue of The New England Journal of Medicine, infectious disease researcher Emily Shuman points out that insects are more active at higher temperatures and broaden their range. Altered weather patterns bring drought to some areas, flooding to others and a higher likelihood of water contamination to both. The World Health Organization **winds** (Answer: predicts) a 3 to 5 percent increase in the population at risk for malaria with a temperature increase of 2 to 3 degrees Celsius. And two degrees is our best-case scenario right now. The WHO also sees 10 percent more **fetal** (Answer: diarrheal) diseases related to unclean water by 2030 due to climate change. Shuman urges the development of warning systems to spot disease **outtakes** (Answer: outbreaks) early, along with continued research into treatments and vaccines, which, she writes, "will go a long way in preventing human **faggoting** (Answer: suffering) that could otherwise occur as a result of climate change."

Location, location, location. We all know it's true of real estate. But it may also apply to the ballot box. Because a team of American **cheeseburgers** (Answer: researchers) has found that where people vote affects how they vote. The scientists looked at results from the 2000 general election. In Arizona that year, the ballot included an initiative to raise state taxes to support education. What they found is that people who **chuckled** (Answer: happened) to be voting in a school **persevering** (Answer: building) were more likely to vote for the **plural** (Answer: proposal) than people who voted at a firehouse or a church. Their results appear in the June 23rd issue of the Proceedings of the National Academy of Sciences. And same thing happened in the lab. Subjects were shown a series of images, some of which pertained to schools. Later on, in what they were told was an unrelated experiment, they were asked to vote on funding for education. Folks who'd looked at lockers were more likely to vote yes. Whether voting in a church might affect where people stand on gay **towheaded** (Answer: marriage) or stem cell research remains to be seen. But it's **watchfully** (Answer: probably) a good thing that more people don't cast ballots in diners—might make it impossible to get rid of all that political pork.

Three years ago, genome pioneer Craig Venter sailed the Sargasso sea and **adjudged** (Answer: returned) with 1,800 species of microbes, including 150 never before seen. An impressive haul. But last week, scientists in New York **shroud** (Answer: announced) that if you want to discover new and interesting bugs, you need travel no further than your own forearm. The researchers, at the NYU School of Medicine, identified 182 species of bacteria, including a dozen new ones, in swabs taken from the arms of six healthy volunteers. Their study marks the first full-scale **western** (Answer: expedition) to catalog the biota that calls the human epidermis its home. The **bios** (Answer: microbes) that live in and on our bodies **bunker** (Answer: outnumber) our own cells 10 to 1. So they're an important part of our personal ecology. And it turns out the zoo of bacteria on one person's skin is very different from the zoo on someone else's. Almost three-quarters of the species identified were unique to an individual. And only four species were found on all six subjects. For the record, the **easterners** (Answer: researchers) took their samples from the subjects' **skulls** (Answer: forearms) because that way no one had to undress. So who knows what exotic life forms may be waiting for discovery just behind your knees.

There's a Native American site in Ohio that appeared to be a fort. But recent discoveries by archaeologists at the University of **diversely** (Answer: Cincinnati) show that's not the case. Instead, it's a two-thousand-year-old Shawnee water management system. It stretches out almost six kilometers. That's much larger than what had been thought to **legitimize** (Answer: comprise) the so-called fort. It's one of the largest such sites in the country. What had been thought to be gates for military protection are actually a series of dams and **donation** (Answer: irrigation) canals. There are logs and clay bricks for damming; raceways for flowing water **propitiate** (Answer: originate) in far-off springs. The water was stored and channeled for irrigation. Drill cores show water sediments and clay. The site demonstrates a **defoliated** (Answer: sophisticated) knowledge of engineering—which archaeologists not realize that Native American communities might have. The site also reveals an **intelligence** (Answer: emphasis) on public works, rather than on war. So this discovery might rewrite a bit of history. Another interesting note: Shawnee remains from the time are typically of petite,

graceful men—and robust, muscular women. So it was probably the women who built the water system. Which means even more history to rewrite.

The 1976 Mars Viking Landers didn't find any life on the red planet. But maybe they weren't looking right. Because at least one **frequent** (Answer: researcher) thinks that a tenth of a percent of the Martian soil tested by the Vikings could **bilaterally** (Answer: actually) have had a biological origin. The Dutch researcher, Joop Houtkooper, **aberrant** (Answer: presented) his ideas on August 24th at the meeting of the European Planetary Science Congress in Potsdam. One Viking test measured unexplained rises in oxygen and carbon dioxide when it was incubating some soil samples. Houtkooper **tendrils** (Answer: conjectures) that the incredibly dry and cold surface of Mars might be home to living cells. Such cells, however, would need to be filled with a mixture of water and hydrogen peroxide, which could stay liquid in the harsh conditions. And if the Viking landers happened to scoop up any of these strange cells, their breakdown **lattice** (Answer: products) would be in line with the oxygen and carbon dioxide measured. The biomass would then represent a tenth of a percent of the Martian soil by weight—which is, interestingly, comparable to levels found in some Antarctic permafrost.

If you've ever **tattered** (Answer: wondered) where the Earth came from, the answer, it seems, is blowin' in the wind—the solar wind. Or so say **rightfulness** (Answer: scientists) who, after examining solar wind samples collected by the Genesis spacecraft, conclude that the inner planets of our solar system formed a little **bigotry** (Answer: differently) than we'd thought. The work appears in the journal Science. Our solar system arose from a large, rotating cloud of interstellar debris called the solar nebula. The sun came first and the planets **basswood** (Answer: followed) not long after. But the new study shows that the ratio of oxygen and **biotin** (Answer: nitrogen) isotopes found in the solar wind is different from the ratio here on earth, or on the moon or Mars. We've got more of the heavier **tubercles** (Answer: versions) of these atoms than our Sun does. Now we just have to figure out why. Scientists say the excess heavy nitrogen could have come from a comet. And the heavier oxygen from a natural process that left more of the light isotope in the part of the nebula that made the sun. So, we are made of star stuff. But when it comes to our elemental composition, we're not a carbon copy.

In the **digestibility celebrity** vaccine wars, I'm siding with actress Amanda Peet. And comedian Bill Maher, well, I like your show, but when it comes to vaccines you don't know a punchline from a clothesline. Maher recently tweeted to his Twitter followers "if u get a swine flu shot ur an idiot." On his HBO program Real Time last week, Maher went head-to-head with former Senator Dr. Bill Frist, who patiently **grenade explained** why vaccines were in fact good. But Maher wasn't buying it. He advocates a healthy lifestyle over vaccines. But polio and smallpox outmatched many robust immune systems. Actress Amanda Peet, meanwhile, has used her celebrity to encourage vaccinations, specifically in response to the alleged vaccine-autism connection, for which there's no scientific evidence, but which has some parents afraid of **plywood childhood** vaccinations. In a letter to a parenting magazine, Peet wrote: "It's **reversible irresponsible** to suggest that virtually the entire

medical community, and the CDC, and the American Academy of Pediatrics are behind a massive cover-up about vaccine safety." See you in the line for the flu shot.

Hillary is undecided. Obama and McCain both passed. But the scientific community is committed to staging a candidates' debate about science and technology. They want straight talk on political buzzwords like climate change and stem cells, as well as less *attacked discussed* issues like funding for basic *reserved research* and the National Institutes of Health. What started as citizens worried about the U.S. losing its edge is now a movement called Science Debate 2008. An article in the current issue of the journal *Science*, claims that, by 2010, 90 percent of the world's *contrivances scientists* and *gears engineers* will live in Asia, where research is well funded. The authors say the US needs to keep up because science and engineering drove half of America's economic growth over the last fifty years. Science Debate 2008 had to cancel a debate before the upcoming *raver Pennsylvania* primaries because candidates *corked wouldn't* commit. Now plans are already in the works for Oregon, where primaries are set for May 20th. It's proof, the journal article says, "that scientists can be quickly organized when motivated." If only politicians shared that motivation.

Scientists discover new species all the time—on the order of 15,000 a year. One of the latest additions to the tree of life is a new type of leopard frog. Which might sound unremarkable, except for where it was found: New York City. But how does a frog go *coded unnoticed* in the Big Apple? Well even experts have a hard time telling this new species from its *refrozen northern* and southern cousins on looks alone. But the new guy has a *baronet different* croak, which raised ecologists' suspicions. So they tracked down four leopard frog populations with the unique call—including one within view of the Statue of Liberty—and took DNA samples. As they suspected, the odd croakers weren't southern or northern leopard frogs, or even a mix. They had a genetic ancestry of their own—earning them new species status. Those results appear in the journal *Molecular Phylogenetics and Evolution*. The frogs are tough New Yorkers—the center of their range appears to be Yankee Stadium. But the *inveiglers researchers* say that the urban amphibians face threats like *advise pesticides* and infectious diseases. Not to mention real-life games of Frogger.

If authorities wanted to determine how pervasive the problem of illicit drug use was in their communities, how could they do it? One cheap and easy way has just been tried experimentally in Oregon. Based on the *transmissible principle* that what goes in must come out, researchers measured the amounts and kinds of drugs that made their way through users to become included in untreated wastewater. This *midwived first-of-its-kind cab research* is reported in the journal *Addiction*. Ninety-six municipal water *teapot treatment* facilities across Oregon volunteered for the study, which *tamest concentrated* on finding evidence of the drugs meth, cocaine and ecstasy. All samples were collected on the same day, in areas that include about *hulls two-thirds* of that state's population. Some findings: evidence for cocaine use was primarily in urban areas, almost *delimit nonexistent* in rural regions; ecstasy use tended toward urban areas as well, and only turned up in about half of all communities; meth was everywhere. More important than those one-day snapshot findings, however, is that this methodology was proven viable, and could be used to track patterns of drug use in multiple regions over time.

The widespread death of honeybees has some farmers fretting, 'cause if honeybees disappear, who will pollinate their crops? "Almost any kind of insect you can think of." Margie Mayfield, an ecologist at The *Somberly University* of Queensland in Australia. "Globally speaking flies are probably the second largest group of crop pollinators. In *retina particular* a group called hoverflies, or syrphid flies. And these are these sorts of *lop large-eyed* flies that if you take a hike, you sometimes see them *bollocking hovering* in front of your face." Along with hoverflies, the army of under-appreciated pollinators *croons includes* butterflies, moths, beetles, ants and wasps. Mayfield and her colleagues analyzed more than three dozen studies on pollination, covering 17 crop plants grown on five continents. And they found that some of these underdog insects accounted for some 40 percent of the flower visits. Some of the crops in their review--especially tropical ones like mangoes and custard *build apples—did* not rely on honeybees at all. Even commodities like canola did fine without bees. The meta-analysis is in the Proceedings of the National Academy of Sciences. Mayfield says part of the difficulty in gauging the importance of bees starts with the research methods: a third of the studies they initially considered, for example, ignored everything but bees. "You know the European honeybee is obviously from Europe, so there's a lot of focus on the European honeybee there." Another issue, she says, is just raising awareness among farmers. "I've encountered farmers in California and in South Africa and in Australia who spray their pesticides largely at night, because that's when the bees have gone back to their hives. And they do that with the idea that we'll spare our

pollinators and will be able to control our pests. But that very much takes the *risk assumption* that only bees are important pollinators." Of course, we should still do our best to save honeybees--the celebrity pollinators. But agricultural practices should consider the rest of these tiny farm workers, too.

A woman friend of mine recently commented about her guy: "He's such a boy. His towels are stinky. And he doesn't seem to notice!" Well, maybe he can't smell the stinkyness. According to recent research from the Monell Chemical Senses Center, women have much sharper noses. Scientists collected *sternness microdroplets* of perspiration, and had men and women sniff the vials. According to both, the odors were equally rich. Subjects were then asked to rate odor strength when sniffing the sweat mixed one by one with 32 different fragrances. Only two of the *ungratefulness fragrances* stopped women from smelling the sweat. But 19 fragrances *sisterly successfully* blocked it from male noses. Body odor is special—the authors note that in previous studies men's and women's scent *intention detection* did not differ when it came to other aromas. The researchers also concluded that men's odor is harder to mask than women's, *comforts regardless* of who sniffs. Only a fifth of the fragrances could cover up male odor. But half of the scents masked female odor. The researchers suggest that for women there may be *discarded important* biological information contained in male sweat. So maybe don't wash those towels just yet.

Conducting a video conference is now a popular *method means* of communication in the business world. This telecommunications technology allows two or more locations to communicate by simultaneous video and audio transmissions. It's designed to serve conferences or meetings in *many multiple* locations. The advantages are obvious: no more lengthy phone calls or *complicated complex* correspondence with business contacts, partners or offices *abroad overseas*. This relatively low cost, fast, effective communication method has made significant inroads in not just a business *environment context*, but also education, medicine and media.

Can your heart bleed for a robot? In two experiments, people reacted to videos where a human appeared to either torture or coddle one of three subjects: another human wearing green, a small green robot, or a *romanticist inanimate* green box. And viewers had a definite emotional *surpass response* to the treatment of the robot. The work will be presented at the international *legation Communication*

Association's annual conference. Forty volunteers watched clips of the robot, which reacted to abuse with upset crying and choking noises and to affection with happy purring and babbling sounds. Viewers became physically agitated *converting watching* the abusive video, and afterwards they reported a negative emotional response. In the second experiment 14 people watched the videos while undergoing a functional MRI brain scan. The scans revealed similar responses when either the robot or the human received affection. But the human's apparent abuse caused more concern than the robot's. Understanding our emotional response to robots may help inform the *impediment development* of robotic assistants. In the meantime, be nice to your Roomba.

Once upon a time, our junketeer (Answer: atmosphere) was a little thin on oxygen. Like, there wasn't any. Then, about three billion years ago, a handful of *widener bacteria* figured out how to harvest the energy from *sulfide sunlight* to make themselves some food. In the process, they consumed carbon dioxide, and gave off oxygen. So, the air filled with oxygen, and all was right with the world. If you've ever taken an intro biology course, you've no doubt heard the tale. Photosynthetic bacteria are the heroes who brought oxygen to our planet. But maybe there's more to the story than that. Because in the online issue of Nature Geoscience, researchers from *inhaler Australia* say: the bacteria didn't act alone. The *hypoglycaemics scientists* looked at *geodetic atmospheric* oxygen levels throughout Earth's history. And they found that the amount of oxygen in the air spiked each time smaller land masses collided to form a supercontinent, like Pangea. These massive pile-ups generated mountain chains, and as the mountains eroded, they released nutrients into the oceans, feeding the photosynthetic bacteria. So, the young Earth and its inhabitants worked *dismember together* to produce a planet where you can really find inspiration.

November 24th marks the 150th anniversary of the publication of Darwin's Origin of Species. On *recta November* 19th, a guy named Ray Comfort, who does not accept evolution, will celebrate the fact that when *centralize copyrights* expire and works enter the public domain, you're free to do with them what you will. Thus, Comfort will be distributing his own edition of Darwin's masterwork, with a new introduction. This is roughly the equivalent of me *automating fingerpainting* on the ceiling of the Sistine Chapel so as to improve the work. According to the folks at the National Center for

Science Education, the NCSE, who monitor efforts to interfere with evolution education in public schools, Comfort in his intro repeats numerous familiar *groomsmen anti-evolution* claims. For example, that there's a lack of transitional fossils and that the second law of thermodynamics makes evolution impossible. These assertions have been disproved more often than the chant "Yankees suck".

Women are so much better than men at so many things. But according to a report published by the Royal Society, chess is not one of them. The topic of sex differences when it comes to matters of the mind is, needless to say, a divisive one. Those who wish to argue that women are just not as smart as men often point to chess as their proof. Although girls can obviously play, no woman's ever been world champion. But before looking for *functional cultural* or *etiological biological* explanations for the disparity, *hypoglycaemics scientists* say you need to do the math. Serious chess players are assigned ratings based on their *pianolas performance* against other players. So, the scientists compared the ratings of the top hundred male and top hundred female players from Germany. And they found that the men indeed outperformed the women. However, that difference can be almost entirely explained by statistics. Because the larger the population, the wider the range of measured scores—the bell curve has a longer tail. And because many more men play than women, the best male players are extreme *downsizers outliers* on that bell curve. As more women play, a few should also reach those extremes, right out there with the men. To which one might be tempted to say: Checkmate.

One of the *girth concerns* about working with genetically *beside modified* crops has been that vegetation growing in agricultural fields might escape out into the world. Now, for the first time in the U.S., researchers report a large population of GM crops beyond the farm. Transgenic canola plants in North Dakota had *pedigreed received* genes making them resistant to herbicides, such as the weed killer Roundup. Researchers collected and tested 406 canola plants along thousands of miles of state roads. They found 347 carrying at least one resistance gene. There were also indications that the inserted genes were being passed on to new generations, producing some plants in the wild with multiple transgenes. The findings were presented on August 6th at the annual meeting of the *archeological Ecological* Society of America in Pittsburgh. The *pinprick transgenic* canola plants are not about to take over the world. But researchers are *industriously obviously* curious about how these

particular plants managed to make it in places like the edges of parking lots rather than pampered fields. Any answers they find will likely affect future biotechnology regulation.

When you get caught in a downpour, you *topography probably* don't think about the size of the *mendacious raindrops* that assault you as you run for cover. But physicists do. And they've come to the conclusion that the drops that hit the ground, or your head, are the shattered remains of bigger drops that fell from the clouds. Raindrops come in a variety of sizes, even within the same storm. And *obeisances scientists* used to think that, to get that kind of distribution, raindrops must crash into each other on the way down, breaking up into smaller droplets or coalescing into larger ones. Now a team of French scientists has produced high-speed footage of falling water droplets. And they find that drops of different dimensions don't require collision—they come from the fragmentation of individual, isolated droplets. Their results appear online in the journal *Nature Physics*. The video evidence reveals that water droplets first flatten out as they fall. And as these plummeting pancakes get wider and thinner, they eventually capture air, forming what look like little plastic grocery bags floating in a breeze. And when the bags get big enough, they pop. And you're left *blackjacking wondering* why you can never *operetta remember* your umbrella.

The eyes are the windows to the soul. As such they can reveal if someone is lying, right? Cop shows, advice shows, even some *conformational organizational* training courses hold that if somebody looks up and to the right, they're *diversity probably* lying. Up and to the left means they're telling the truth. Now a study says that there is no *crimson connection* between eye *student movement* and lying. The work is in the journal *Public Library of Science ONE*. *seamstresses* Researchers tested eye movement and honesty in multiple ways. For example, they tracked the eye movements of subjects who were lying or telling the truth about things they had recently done. There was no correlation between lying and eye direction. The researchers also closely *signalized analyzed* 52 archived news videos of real people making a public plea for the safe return of a missing relative. In half the videos the plea was sincere—but in half there was strong evidence that the speaker was involved in the crime. Again, no eye-movement clue was evident. So, when judging the honesty of a speaker, remember: the eyes do not have it.

Think of a quality that defines a strong leader. Do I hear: dynamic, driven, decisive, original? Well, I probably didn't hear "original." Because people who are considered "creative" are generally not viewed as leaders. That's according to a study in the Journal of *tickle Experimental Social Psychology*. People who show imagination can be seen as dreamers because their ideas have not been proven. Those seen as leaders, on the other hand, are expected to maintain order and to keep things moving forward. Yet in today's *amendments business* world, companies say they're looking for matrix (Answer: creative) CEOs who can promote change and lead their businesses in profitable new directions. To examine what we really think about creativity, scientists asked students to present ideas for how *accessorise airlines* can get more revenue from their passengers. Half the students were told to come up with novel solutions, and the rest were asked to stick with *swirling something* more tried-and-true. Other students who then listened to these pitches rated those who were innovative as having less leadership potential. So go ahead, think outside the box. But if you want to scale the corporate ladder, you might *mister consider* keeping your most interesting ideas under wraps. At least until you've nailed that corner office.

When you think of someone who's trusting, you may assume that they're gullible. But that's not necessarily true—a fact that your Pollyanna pal might be in a good *condition position* to point out. Because people who have faith in their fellow human beings are actually good at *thrusting spotting* lies. The finding is described in the journal *Social Psychological and discursively Personality Science*. Researchers videotaped a cadre of second-year MBA *doodahs students* as they pretended to interview for a job. Half the interviewees were entirely truthful, and half told at least three whoppers, lies they thought would make them more attractive candidates for the fake job. The scientists then showed these videos to a second set of subjects and asked them to rate the honesty of the interviewees and say which ones they'd hire. The results: subjects who said they think that most people are basically honest, good-natured, and kind were better at spotting the liars than the self-described cynics. *farces Subjects* who were more suspicious were, ironically, more likely to hire the liars and less likely to detect their fabrications. So, trust may lend itself to better interpersonal intuition. And if you don't believe that, well, maybe you're just not being honest with yourself.

The epidemic swept the world. Fortunately, it was only the World of Warcraft, a popular online role-playing game. But that got the attention of real disease experts at Tufts and Rutgers Universities. That's because the *nettle accidental* outbreak that attacked the virtual *commissars characters* offered a unique opportunity to study how social groups can help spread a disease. In late 2005 the epidemic hit the World of Warcraft, played by millions. It all started with an error. One creature was supposed to infect only a few virtual players with so-called corrupted blood. But some of the nastiest virtual *clamminess inhabitants* exploited a flaw and spread the disease to unsuspecting masses. The virtual quarantines game *immobilizers designers* tried to impose didn't work, in part because the virtual people didn't follow them, and so entire virtual cities were virtually destroyed. The experts were fascinated because they've have never had a way to realistically simulate how large groups of people will react to an epidemic. But the cure for a real epidemic still won't be as easy as the virtual one was—they just reprogrammed the computers.

WRITE FROM DICTATION

The department will continue to offer three new scholarships next year.

Dogs are able to provide assistance to people with disabilities.

Popular culture is now a serious subject of academic inquiry.

The reading list will be available before the course begins.

Books for children often contain many beautiful illustrations.

The blue whale is the largest animal that ever lived.

Free campus tour runs daily during summer for prospective students.

Interim grades will be posted on the board outside the student lounge.

A regional assembly was moved to the devolution of power.

I think it's one of the best things I've done really.

A celebrated theory is still the source of great controversy.

A good academic paper should be clear.

A good architectural structure should be usable, durable and beautiful.

Employers accept applications from all academic graduated backgrounds.

A balanced diet and regular exercise are necessary for good health.

A good scientific paper should have clear arguments.

A massive accumulation of data was converted to a communicable argument.

A number of students have volunteer jobs.

A person's educational level is closely related to his economic background.

A recent article shows a number of interesting experiments.

A very basic feature of computing is counting and calculating.

Academic problems cause a rise in employment.

Accountancy students probably have a good understanding of economics, statistics and psychology.

Accountant students should have a good understanding of profit and loss statement.

Students who study environmental biology need to do fieldwork.

The posters are on display at the larger lecture theater.

Affordable housing is an important issue for all members of society.

Agenda items should be submitted by the end of the day.

All answers must be examined and supported by relevant theory.

All dissertations must be accompanied with a submission form.

You must change your password every month.

All lectures and learning materials can be found on the internet.

All of the assignments must be submitted in person to the faculty office.

You will be tested online.

The research results will be shared with the internal and external stakeholders.

All students are expected to attend ten lab sessions per semester.

Two drops of the solution were heated in a test tube.

Technology has changed the media we both used and studied.

All the educational reforms have been inadequately implemented.

All writers, consciously or unconsciously, represent their own culture.

Although sustainable development is not easy, it is an unavoidable responsibility.

In recent years, America has developed a coffee culture.

Our undergraduate courses are designed with employment ability in mind.

The National Center of Excellence is currently being built.

An ancient text may hold secrets which were lost centuries ago.

An architect is required of problem-solving skills and an eye of design.

Research shows that knowledge and experience are essential to creativity.

And in that regard, as well as in other regards, it stands as an important contribution.

Animals raised in captivity behave differently than their wild counterparts.

The library is located on the north side of the campus.

Artists, other than politicians, played their own roles as critics of the culture.

The school theater study helps students to exercise their activities.

Atmosphere is composed of several layers.

Attracting skilled workers to the city with expensive housing is hard.

Poverty exists everywhere but the situation is improved.

Bad policy decisions led to the financial crisis.

Before attending the lecture, you must register online or by post.

Before completing the exercise, you need to read the remaining chapters.

Before submitting your dissertation, your advisor must approve your application.

Behind the barn, there is a flat cart drawn by mules.

Often, people do not listen to understand; they listen to respond.

There are still some tickets available for the concert next Wednesday.

Weather forecasts will have a big change in the next century.

Below the heating controls in the middle is a small round plastic button.

Food that contains antibiotics provides little or no nutritional value.

Building trust is not something that can be achieved overnight.

Calculations may not be needed in this examination.

Career opportunities in this field are quite limited.

Contracts can help to avoid misunderstandings between businesses.

Certain scientific principles must be learned verbally or by a logical deduction.

Cinema and music are as important as science and mathematics.

Please click the logo above to enter the site.

Climate change is a fierce phenomenon concentrated by scientists.

Climate change is now an acceptable phenomenon among a group of reputable scientists.

Clinical placement in nursing prepares students for professional practice.

Collaboration between departments is a feature of successful companies.

Companies want to protect their brands from negative comments.

Competition for places in this course is fierce.

Students are required to have a biology degree to be enrolled in this course.

Conferences ought to be always scheduled two weeks in advance.

Students who want to attend the conference must register first.

Tutors will arrange to meet all new students next week.

Remember to take all your belongings when you leave the lab.

The majority of our decisions are not rational.

You will be tested via a quiz and a dissertation.

Some people are motivated by competition, while others prefer to collaborate.

Weather patterns have changed significantly over the past two hundred years.

New developments in manufacturing are constantly changing the way we live.

Even if you have used cosmetics for years without problems, one or more ingredients can still trigger an allergic reaction.

Take the first step by applying for university scholarship now.

The course involves pure and applied mathematics.

Studying medicine is always with a wide range of opportunities.

One function of body fat is to keep all internal organs warm.

Classical mechanics is considered as a branch of mathematical physics.

Renovation work is currently being undertaken throughout the whole building.

Your application for a research grant has been received.

More muscles are used in swimming than other sports.

The curriculum is described in the course syllabus.

They developed a unique approach to training their employees.

The main problem is the increase of plagiarism exacerbated by the Internet.

Farming methods around the world have greatly developed recently.

There may be an announcement about this new course tomorrow.

Psychologists say what we have experienced influences our behaviors.

The seminar provides an opportunity to exchange ideas with other students.

There have been too many struggles in the mathematics department.

Farms need to adapt to the changes of climate.

Babies can distinguish between what is language and what is not.

In consultation with your supervisor, your thesis is approved by the faculty committee.

Honey can be used as food and health product.

Some people regarded it as care, while others regarded it as recklessness.

The two sides have disagreed on how to solve the problem.

International students come from all around the world.

I looked into my closet for something to wear but couldn't find anything that was appropriate.

Much of the research is carried out in the laboratory.

The history lecture has been moved to the lecture theater.

Key business partners are often intertwined in expense accounts.

The library will stay open until midnight this week.

In the top left corner is the grinding shop, where the tools were sharpened and polished.

Academic development needs to be supported by governments.

Speak to your tutor if you need further assistance.

You should provide examples to support your ideas and arguments.

We need to answer security questions if we want to reset the password.

I am glad that Professor Gordon just joined our faculty.

Assignments handed after the due day will not be accepted.

Please write down the name of the author and the year of publication.

The meeting for first-year economics students is on Tuesday.

Many language learners should maintain a list of vocabulary.

Dealing with the growing population is a challenge for many governments.

When you answer each question, you can click the next button.

You must set a security question when resetting your password.

Archeologists discovered tools and artifacts in ancient tombs.

It is successfully acknowledged that there is a student graduation ceremony.

The policy aims to increase the investment in foreign currency.

The printers automatically print two sides of each page.

The bus to London will leave ten minutes later than expected.

The majority of academic publications are in English.

Your ideas are discussed depending on your seminar or tutorial.

All medical students must clean their hands before entering the room.

We are no longer responding to any material requests.

The reception staff can give information of lending and printing.

The coffee machine on the third floor is not working today.

Make sure you have saved all the files before turning off the computer.

The library will be closed for staff training tomorrow morning.

The course tomorrow will require higher skill levels.

Reserved collection books contribute to the most achievements of students.

Children conquer their first language without any efforts.

Field trips are essential parts of most geography courses.

Sociology policies are the sources of the government to solve social problems.

Mathematics can be applied in various disciplines.

Sound waves are unable to travel through the vacuum.

You can pay by cash or using a credit card.

Firm conclusions can be established through rigorous experiments.

Salt is produced from the seawater or extracted from the ground.

Animals and plants have a number of cells in common.

Even simple practices need to be conducted perfectly.

Graphs are often useful for geographical research.

The north campus car park could be closed on Sunday.

Sugar is a compound including carbon, hydrogen and oxygen atoms.

Scientists recognize differences among water molecule content.

All the new students will be gathering at the canteen before the class starts.

Momentum is defined as the combination of mass and velocity.

The collapse of the housing market makes recessions.

Even simple techniques need to be practiced to become perfect.

Slides and handouts can be downloaded after the lecture.

Students should leave their bags on the table by the door.

Females are better than males in academic results until 44 years of age.

Late applications are not accepted under any circumstances.

It helps you to rationally assess your arguments.

The article illustrates a very large number of very interesting experiments.

Social media is criticized for causing Internet addiction.

The area has a number of underwater habitats and species.

To take this course students should have basic subject knowledge.

The university has invested in the new technology designed for learning.

There is not much interconnection between philosophy and psychology

The department is doing research on biology.

Physical health can be improved by regular training.

Some students prefer to learn by images and pictures.

The English degree is a worthy degree of the third year.

Students require undergraduate biology degree to enroll in this course.

A visit of design museum is greatly valued.

The project is divided into four main sections.

Relying on natural ability will not get you far on science.

Philosophers used logic and reasons to analyze the human behaviors or experiences.

Globalization often puts more pressure on national economic policies.

The history course is assessed via three written assignments.

The government is funding research study on the consequences of unemployment.

The orchestra will be led by a visiting conductor.

The department works closely with its partners in the business community.

The digital camera has some advantages over traditional film.

Critical thinking is one part of a broad education.

The farmers need to adapt to the changes of the climate.

Everyone in the class seemed eager to learn.

Contracts can help to solve misunderstandings between businesses.

He taught physics to the students at a college ten years ago.

The children's reading club meets every Monday afternoon.

The arrangements are all in place for the concert next month.

The company has adopted a firm policy on shoplifting.

He was invited to the lecture on American literature at our school..

A commercial college teaches things that would be useful in business.

At university she developed a special interest in ecology.

Lack of motivation resulted in his failure of the project.

They trust in the information received from the girl.

The chairman of the committee is expected to be back tomorrow.

The doctors are discussing how to cure this patient.

Every week we have a seminar on modern political theory.

The government will maintain its strictly neutral policy.

A scientist must produce evidence in support of a theory.

She collected a vast body of information on the subject.

Mathematical physics is difficult for the new students.

Her statement was a clear expression of her views on this program.

Sociological studies emphasize the importance of the family.

The findings are similar to those reported in previous research.

The online handbook gives details of all courses.

The university provides free accommodation for its students.

The company was sued for breach of copyright.

Many small businesses have gone bankrupt in recent years.

He made an announcement of further cuts in government expenditure.

Fish can take in oxygen when they are under water.

Every student in this class is capable of passing the exam.

The communities are demanding equal rights and justice.

The education system must satisfy the needs of all children.

We have been unsuccessful in finding a new manager.

He's the president of a large international organization.

The secretary of state is presently considering the proposal.

The student was puzzled about what to do next.

The school rewarded him with a prize for excellence in his studies.

The government has to do more to promote agriculture.

University volunteers work together to help students who suffer from hunger.

He became a poet after dropping out of high school.

The art course has been cancelled due to the new policy.

The history exam tomorrow afternoon concerns him a lot.

Watching television can be very educational for children.

The university has decided to introduce new subjects.

The professor took the students to the chemistry lab.

The factory will compensate its workers if they are hurt at work.

At last she passed the exam with a friend's help.
Water will freeze when the temperature is below zero.
Both runners had pushed themselves to finish the race.
The party was to celebrate the couple's engagement.
The organization has been staffed by unpaid volunteers.
The complicated problem is beyond my comprehension.
Students cannot leave the campus during the break time.
The girl skipped lunch in order to go shopping.
He finally chose mathematics instead of physics.
Mankind is warned to stop spoiling the environment.
The company's profits have soared dramatically in recent months.
The students expected their headmaster to participate in the ceremony.
Fee is the key factor for university students to choose courses.
You should return books to the library before ending your term.
It is important to develop good study skills.
The research showed that many doctors were improperly trained.
His paper focuses on the way that birds communicate with others.
The program is an attempt to get a better idea of poverty.
He is determined to go abroad to pursue his further study.
The professor set out to analyze the habits of the natives.
We aim to help disabled students to live and study independently.
The report showed improved survival of patients using the drug.
Next term we will research into how plants grow.
The telegram was delivered early this morning.
The firm has close ties with an American corporation.
He wants to study medicine but needs more qualifications.
The application of this new technology was supported by the board.
They walked along the road in the moonlight.
There's a new scheme in our town for recycling plastic bottles.
The seeds need to be completely immersed in water.
The tuition fees are charged each year and are payable at enrollment.
Heavy drinking can cause permanent damage to the brain.
Musicians see music as a way to entertain people.
The once great industry is now in terminal decline.

She asked them to donate a collection of drawings.

Physiology is the study of how living things work.

The student support will be upgraded shortly.

We're still waiting for our exam results to come through.

The children have not yet learned to spell correctly.

The enquiry investigated whether officers had behaved properly.

Writing a history book entails a lot of work.

The new trade agreement should facilitate economic growth.

These push buttons can activate the elevator to work.

We should help them to understand things when educating children.

The cost of training this group of workers will be enormous.

The teacher's comment includes recommendations for future study.

He had failed to prepare adequately for the task.

The later chapters discuss the effects on the environment.

He refused to admit his departure from the government.

The mountain is the boundary between the two countries.

Education is the best way for people to invest in the future.

Reading and writing are two completely different skills.

The modern inventions have greatly facilitated housework.

Hot beverages include tea, coffee and hot chocolate.

The weather report advised us to prepare for a big freeze.

Pupils are encouraged to discuss the book with their classmates.

Our factory has a strict rule against smoking.

The government has accused the media of bias.

More people are concerned about social inequality recently.

She tried to lighten up her speech with a few jokes.

They try to widen the discussion to include environmental issues.

A lack of formal education will limit your job opportunities.

She gave up her job and started writing poetry.

The king ordered his people to prepare for the war.

There's a meeting to discuss the siting of the new school.

Vitamin has been popularly believed to prevent colds.

Officers from the education department visit the schools regularly.

We meet once a month to discuss community problems.

Their most valuable belongings were locked in a safe.
Many companies did not manage to survive the recession.
The child has become skillful in reading Italian books.
We must ensure that education is not used as a political tool.
Her illness compelled her to give up her job.
We still have to discuss some details about this campaign.
The council has rejected his proposal to build more office accommodation.
The professor of computer science is giving a lecture to students.
Some teachers prefer to talk with students in the hallway.
This occupation requires a good demand of Spanish and French.
These graduate students have been advised to seek other mentors.
Our students have attended the summer camp hosted by the university.
He went to his office more frequently during the school year.
The curriculum of the school does not include any sports activities.
This physics lab is closed because of some technical issues.
Our professor is now on leave after a busy semester.
This book offers many teachers a new way to encourage students.
Children need to be educated on the danger of taking drugs.
The school has made a promotional video to attract new students.
We need more money to build roads, hospitals and schools.
The university is highly rated for its research accuracy and ability.
They have been asked to move out of their rented studio.
The management of many new colleges was less than satisfactory.
The campaign is intended to educate the public to respect the environment.
Last summer we rented out our house and went camping.
The center that has just been built will serve our community.
My time spent in the library has been very productive.
We interviewed each individual member of this special community.
Journalists need to work with a range of technologies.
The instant availability of information has radically changed people's lives.
Both scientists are arguing over the result of this experiment.
Resources and information of the local community are no more available.
More and more women are now engaging in education career.
Only few students do not prefer working with other peers.

We have discussed this issue for a day without any solution.

She has been assigned to a new project in Spain.

He used to give lectures on American literature in a university.

Students were asked to hand in their essay within a week.

There had been many female artists in early modern France.

Few students have received financial support from the local government.

The failure of the company was a result of bad management.

She won a scholarship to study at a famous university.

Each study centre would provide information on technology and training.

We have applied special devices in the study of local history.

A transport plane is carrying food and medical supplies for people.

Earlier reports suggested that a meeting would take place on Sunday.

You must be able to speak French for this job.

Graduates have to fight for jobs in the highly competitive market.

This lecture will be of special interest to history students.

He and his wife run their own gift shop in the town.

Several major companies and organizations are supporting this project.

They have come up with a new method of solving the problem.

The new rules will become effective in the next few days.

His lectures tend to range over a number of topics.

You need to be able to concentrate when working or studying.

The postgraduate education depends entirely on private funding.

Remember to bring calculators to class next week.

During that time people had large families as an insurance against some children loss.

Apple is expected to announce several new products this fall.

Experts have made some assumptions based on students' study habits.

You should be careful when searching internet sources.

Many people think they are more talented than others.

Students must clean their hands before attending the engineering workshop.

Newspapers across the country have been reporting stories of the president.

She is an expert in the eighteenth-century French literature.

The sports team members often practice on weekdays and play games on weekends.

All students and staff have the access to printers and scanners.

Professor Tim Lee invented World Wide Web.

If you need any assistance please get help from the general office.

A lot of agricultural workers came to the East End to look for alternative work.

You need student identification to borrow books from the library.

Some people argue that science is more important than art.

The field of journalism has been seen in decline in the decades.

Each department has their own style of guidelines for assignments.

The students should visit the lecture hall behind the building.

Basketball was created in 1891 by a physician and physical education instructor.

The geography examination will take place in the sports hall.

Working with these kinds of students is not enough.

The company has not achieved success despite good reputation.

We are committed to recruiting candidates from all backgrounds and identities.

Please note that the seminar has been cancelled now.

Learning a foreign language takes a lot of effort.

Each organ of your body is a complex living system.

Any gains from the property must be promptly allocated.

You must wear closed shoes when working in the lab.

The excursion will go ahead on Thursday as planned.

Researchers found that trees can relieve stress and anxiety.

One student representative will be selected from each class.

The introduction of railway greatly contributed to the revolution of train industry.

The temporary library will be closed in the winter break.

You will acquire many skills during the academic studies.

I can't hand out my dissertation this week.

His analysis study appears to be based on the false premise.

Average earnings have risen slightly over the decades.

Political assumptions are based on voting behaviors.

The coming scientific research requires time and dedication.

A treaty deal built between two countries was just announced.

All of your arguments must be supported by evidence and relevant theories.

Marketing is a very important activity for many new businesses.

It is essential for companies to reduce the amount of harmful gases released into the atmosphere.

Certain films are hard to be classified into one single genre.

Before writing down your notes, check the accuracy of your data.

A good academic essay should have a clear argument.

The election of president is held once every four years.

The new lecture theater accommodates a large number of students.

Many governments found that it was difficult to reduce poverty in our society.

The key to clear writing is clarity of thought.

Be careful when you use English translators.

The library is open only on Mondays and Fridays.

The university offers a wide range of courses according to your commitments.

In the new project, you have to present the different items.

Accountancy students need to submit their dissertations this week.

The integration of archeologists' studies with community projects is widely encouraged.

These mentors are here to help train students in engineering science.

Students of the first year usually live on campus.