

## PART 1

Read the text. Fill in each gap with ONE word. You must use a word which is somewhere in the rest of the text.

### THE IMPORTANCE OF DREAMS

In 1960, an American psychiatrist named William Dement published experiments dealing with the recording of eye-movement during sleep. He showed that the average individual's 1 cycle is punctuated with peculiar bursts of eye movement, some drifting and slow, others jerky and rapid. People woken during these periods of 2 generally reported that they had been dreaming. When woken at other times they reported no dreams. If one group of people were disturbed from their eye-movement sleep for several nights on end, and another 3 were disturbed for an equal period of time but when they were not exhibiting eye-movements, the first group began to show some personality disorders, while the 4 seemed more or less unaffected. The implications of all this were that it was not the disturbance of sleep that mattered but the disturbance of 5

#### Part 2

#### Questions 6-11

Do the following statements agree with the information given in the Reading Passage?

#### Charles-Marie de la Condamine

The man who helped measure the shape of the world

Although ordinary people may have thought so, few scientists had ever really believed that the world was flat. And certainly, by the beginning of the eighteenth century, they agreed without exception that it was round. There was still some minor disagreement, however, about exactly what being 'round' meant in this context. Some said the planet was a perfect sphere, like a ball. Others thought it might be generally round, but with some irregularities. The English scientist Sir Isaac Newton argued that

the Earth bulged outwards around the equator. On the other hand, the French astronomer royal, Jacques Cassini, believed that the planet was stretched out at the north and south poles, making it shaped more like an egg. The debate was partly just a reflection of the way England and France competed about many things at the time, but it was also a serious question that affected how maps and sailing charts were drawn, and therefore the safety of sailors at sea. So in 1734 the French Academy of Sciences decided to measure the Earth's shape. An expedition under Pierre de Maupertius would travel close to the North Pole, and another under Charles-Marie de la Condamine would travel to the equator. Both expeditions would survey the shape of the Earth's surface and then compare findings. After a long voyage, Condamine reached Peru in South America, where the scientific experiments began. His team climbed high into the mountains to take measurements using surveying equipment and then descended to the desert plains to continue their work. Finally, after four years' work – more than twice the time the leader had intended – the survey work was complete. As part of their research, they had built small pyramids made of rock as permanent features from which to take certain measurements, and their remains can still be seen today as monuments to the expedition. When Condamine's team returned to France, the Earth was found to be slightly wider between the poles than when measured through its centre at the equator. Condamine and Maupertius were now counted as among the most eminent scientists in Europe.

You should write

TRUE if the statement agrees with the information

FALSE if the statement contradicts the information

NOT GIVEN if there is no information on this

6. At the start of the eighteenth century, scientists knew the Earth was round.

7. Sir Isaac Newton had done scientific experiments at the equator.

8. The debate between Newton and Cassini was important for sailors.

9. Maupertius and Condamine had worked together in the past.

10. Condamine finished his research sooner than he had

expected.

11. Condamine left behind no physical evidence of his expedition to South America

### Part 3

Read the texts and choose the best alternative!

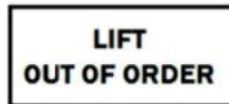
12 Read the following advertisement.

Bales is famous for its wide range of titles, from college textbooks to classic literature, and is known for its peaceful atmosphere. Customers come here not only for the best prices, but also for the excellent café which stays open until late.

Bales is ...

- A) a museum                      B) a bookshop                      C) a library

13 Read the following sign.



The sign means ...

- A) you must press the button  
B) you should call emergency services  
C) you have to use the stairs

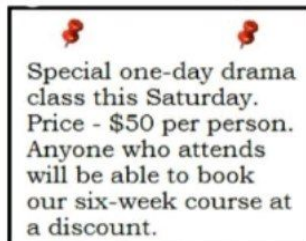
14 Read this instruction for a piece of equipment.

When the night setback mode is selected, the device automatically raises the temperature setting 2 °F when 30 minutes have passed after the selection was made, and then another 2 °F after another 30 minutes have passed, regardless of the indoor temperature when night setback was selected. This enables you to save energy without sacrificing comfort. This function is convenient when gentle cooling is needed.

What is the equipment?

- A) a refrigerator                      B) a TV-set                      C) an air conditioning

15 Read the following notice.



What does the notice say?

- A) The six-week course is cheaper if you also do one-day class.  
B) The one-day class is free for those who book the six-week course.  
C) You must pay for the six-week course before you do the one-day class.

16 Read the following news extract.

Boulders on the track have been blamed for the latest train crash in India which left 20 people dead and 100 injured. A passenger train plunged off a bridge in western India, leaving carriages hanging from the 27m high bridge. Reports indicated the accident was caused by boulders falling after heavy rains. But engineers conceded that steel nets erected across loose rocks alongside the tracks were inadequate.

According to the text, ...

- A) two trains crashed because of the bad weather conditions  
B) the bridge was not strong enough  
C) big stones fell onto the railway and caused the accident

### Part 3

#### Extinct birds of New Zealand

Many species of birds that once lived in this South Pacific country aren't found today.

Today, New Zealand is a typical, modern country with cities, towns and roads. But for many thousands of years, and until relatively recently, the more than 3,000 islands that make up the country had no human inhabitants at all. Instead, a vast number of birds lived in its forests, mountains and along the thousands of kilometres of beaches. In fact, New Zealand probably had more species of birds than any other country in the world. One reason for this was that the natural environment was a perfect source of food to support the bird population, particularly from the enormous oceans that surround the country. With so much food readily available, it's not surprising that the bird population grew. Another important factor was that the birds had no predators on land because, with the exception of a single species of bat, there weren't any mammals at all in the country that would otherwise have killed birds and kept their numbers down. Because of this, over many, many years, New Zealand's birds developed characteristics not associated with bird populations in other countries. For example, they didn't have to defend themselves from predators, so many birds lived on the ground and didn't have wings because they didn't need to fly, such as the iconic kiwi bird and also the much larger, ostrich-like bird called the moa. This characteristic allowed the birds to save huge amounts of energy and provided them with numerous other advantages – so long as they didn't need to defend themselves against attacks by predators! One final development was that many of these birds now made their nests on the ground rather than in trees and the eggs that they laid became much bigger over time. This was just one more factor that made these populations of birds very vulnerable when humans eventually reached New Zealand. The first human migrants to New

Zealand were the Maori people, who arrived approximately 800 years ago. The Maori sailed from their original homes in the tropical Pacific to New Zealand in canoes, bringing food supplies and many of the things they needed to set up new homes. Unfortunately, however, they unintentionally brought Pacific rats with them as well, a species previously unknown in New Zealand, and these killed many birds that were unable to fly away. The Maori themselves also hunted birds for food, and their loud calls in the forest at night time made them particularly easy to find. Birds were useful in other ways, too. Fish hooks were frequently manufactured from bones, while feathers were highly prized as decorations to be worn in the hair or clothing.

The results of this, in terms of bird populations, has been calculated by the scientist Paul Martin. His research since the 1960s has assessed the impact on flora and fauna of human arrival in various parts of the world, and he has concluded that New Zealand is a unique example because bird species were wiped out so fast, relative to other countries. European migrants started arriving in significant numbers in the early 1800s and brought with them a whole lot of new problems. The journals of the earliest European explorers in the country are full of references to how they relied on their hunting dogs to catch birds in order to supply the expedition with food, and these animals have been a constant threat to bird life ever since.

Many of the European settlers came to New Zealand to set up farms, but before this was possible it was necessary to clear the land of trees, and this process of deforestation had serious consequences for many birds, as their habitats were destroyed. As the country's population has grown and the need for more land for housing, industry and

farming has increased with it, many more bird species have faced extinction. However, in recent decades attempts have been made to save some of these endangered species by creating sanctuaries where they can live and breed.

The location for nearly all of these sanctuaries has been small islands scattered around the coastline, which can be kept free of predators and pests. In some cases, this includes human beings, allowing the environment to return to its original condition.

Questions 17-20

Complete the notes below.

Write ONE WORD ONLY from the passage for each answer.

New Zealand before humans arrived

- there were many birds
- the large 17 ..... provided food for birds
- there were no 18 ..... on land so birds had few predators
- many birds had no 19 ..... so couldn't defend themselves, e.g. moa
- birds' 20 ..... were also very large
- birds were very vulnerable

Questions 21-25

Complete the table below.

Write NO MORE THAN TWO WORDS from the passage for each answer.

### Human migration to New Zealand

	Reasons Birds Died	Results
<b>Maori migration</b>	2 1..... were accidentally introduced to New Zealand birds' loud calls made them easy to find birds' feathers were used for decoration and bones for 2 2.....	according to Paul Martin, the extinction of some species was unusually 2 3.....
<b>European migration</b>	explorers used 2 4..... to kill birds for food creating farms caused 2 5..... and loss of habitat	



#### PART 4

26 - 35 Match the following headings (A-L) to the texts  
Note: There are two extra headings which you do not need to use.

#### Headings:

- A) Ancient Ancestor
- B) Artificial Eye
- C) Behind the Wheel
- D) Circles on the Water
- E) Easy Shopping
- F) Future Entertainment
- G) Greenhouse Effect
- H) New Possibilities for Business
- I) Permanent People
- J) Significant Benefits
- K) Solution to the Problem
- L) Unexpected Invention

26

Chocolate chip cookies were actually a mistake! One day in 1903, Ruth Wakefield, while baking a batch of cookies, noticed she was out of bakers' chocolate! As a substitute she broke some semi sweetened chocolate into small pieces and put them in the dough. She thought that the chocolate would melt in the dough and the dough would absorb it. When she opened up the oven, she realized she had invented the tasty treat called chocolate chip cookies!

27

Computers originally began as calculators. The first calculator was made by Blaise Pascal. It only had eight buttons, and it could only do addition and subtraction. There was a set of wheels, and all of the wheels had the numbers zero through nine on them. The wheels were connected by gears and each turn of one wheel would turn the next wheel one tenth of a turn. This machine was completed in 1642 when Blaise was twenty-one years old.

28

A helicopter has a big advantage over an airplane, especially when people might be trapped in a tight place like on a mountain, where there is not much space to land, or on the water. They are also used for rescuing people from burning buildings or from trees when there are floods. Without the helicopter as a rescue vehicle, many people would lose their lives because the rescuers would be unable to reach them if they were in a difficult area.

29

Cars have always caused air pollution. In the past, there was a lot more air pollution created by cars than there is today. In the future, there will probably be even less. Two good ways for pursuing the dream of less air pollution are cars that run on solar energy and cars that run on fuel cells. Solar energy and fuel cells don't cause pollution because they do not give off any exhaust.



30

Reporter Rob Spence is planning to have a camera embedded in his eye socket and become a 'bionic reporter'. Spence, who lost one of his eyes when he was young, says he has a prototype in development and that one day the replacement of even healthy eyes with bionic ones may become commonplace. 'It seems shocking now, but it will become more and more normal,' he said.

31

The smart fridge will be connected to the Internet as part of a home network that runs your domestic life, interacting with the barcodes on your food, and re-ordering them on line as you use them. Virtually all domestic appliances will be linked by computer, so that the fridge can communicate with the cooker and rubbish bin, coordinating complex tasks such as cooking a meal.

32

Children of the future will never be able to complain that there's no one to play with. Equipped with virtual reality headsets, they will be taking part in global games, for example, in medieval jousting tournaments. Their opponents, selected by the computer, will probably live on the other side of the world.

33

Cars of the future will take much of the strain out of driving. The intelligent navigation system will be able to choose the best route for you by monitoring an online traffic database for hold ups, while the cruise control keeps a constant distance from the car in front. And if you exceed the speed limit, the speedometer will give a polite warning to you.

34

Holographic conferencing and virtual reality meetings will allow people to interact with colleagues and clients via computer, without needing to leave the comfort of their own homes. This will also mean that a lot more people will either work freelance from home, or on flexible short term contracts. The old concept 'jobs for life' will be a thing of the past.

35

In the future it will become harder to tell the difference between the human and the machine. All body parts will be replaceable. A computer will function like the human brain with the ability to recognize feelings and respond in a feeling way. We will then be able to create a machine duplicate of ourselves and transfer our spirit so we will be able to live for as long as we want.

