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**Academic  
Reading  
Practice Test  
43**

IELTSFEVER ACADEMIC READING TEST 43

## Reading Passage 1

You should spend about 20 minutes on Questions 1-13 which are based on Reading Passage 1 below.

### Wonder Plant

*The wonder plant with an uncertain future: more than a billion people rely on bamboo for either their shelter or income, while many endangered species depend on it for their survival. Despite its apparent abundance, a new report says that many species of bamboo may be under serious threat.*

#### Section A

Every year, during the rainy season, the mountain gorillas of Central Africa migrate to the foothills and lower slopes of the Virunga Mountains to graze on bamboo. For the 650 or so that remain in the wild, it's a vital food source. Although they eat almost 150 types of plant, as well as various insects and other invertebrates, at this time of year bamboo accounts for up to 90 per cent of their diet. Without it, says Ian Redmond, chairman of the Ape Alliance, their chances of survival would be reduced significantly.

Gorillas aren't the only locals keen on bamboo. For the people who live close to the Virungas, it's a valuable and versatile raw material used for building houses and making household items such as mats and baskets. But in the past 100 years or so, resources have come under increasing pressure as populations have exploded and large areas of bamboo forest have been cleared to make way for farms and commercial plantations.

#### Section B

Sadly, this isn't an isolated story. All over the world, the ranges of many bamboo species appear to be shrinking, endangering the people and animals that depend upon them. But despite bamboo's importance, we know surprisingly little about it. A recent report published by the UN Environment Programme (UNEP) and

the International Network for Bamboo and Rattan (INBAR) has revealed just how profound our ignorance of global bamboo resources is, particularly in relation to conservation.

There are almost 1,600 recognised species of bamboo, but the report concentrated on the 1,200 or so woody varieties distinguished by the strong stems, or culms, that most people associate with this versatile plant. Of these, only 38 'priority species' identified for their commercial value have been the subject of any real scientific research, and this has focussed mostly on matters relating to their viability as a commodity.

This problem isn't confined to bamboo. Compared to the work carried out on animals, the science of assessing the conservation status of plants is still in its infancy. "People have only started looking hard at this during the past 10-15 years, and only now are they getting a handle on how to go about it systematically," says Dr. Valerie Kapos, one of the report's authors and a senior adviser in forest ecology and conservation to the UNEP.

### Section C

Bamboo is a type of grass. It comes in a wide variety of forms, ranging in height from 30 centimetres to more than 40 metres. It is also the world's fastest growing woody plant; some species can grow more than a metre in a day. Bamboo's ecological role extends beyond providing food and habitat for animals. Bamboo tends to grow in stands made up of groups of individual plants that grow from root systems known as rhizomes. Its extensive rhizome systems, which lie in the top layers of the soil, are crucial in preventing soil erosion. And there is growing evidence that bamboo plays an important part in determining forest structure and dynamics. "Bamboo's pattern of mass flowering and mass death leaves behind large areas of dry biomass that attract wildfire," says Kapos. "When these burn, they create patches of open ground within the forest far bigger than would be left by a fallen tree." Patchiness helps to preserve diversity because certain plant species do better during the early stages of regeneration when there are gaps in the canopy.

### Section D

However, bamboo's most immediate significance lies in its economic value. Modern processing techniques mean that it can be used in a variety of ways, for example, as flooring and laminates. One of the fastest growing bamboo products



is paper – 25 per cent of paper produced in India is made from bamboo fibre, and in Brazil, 100,000 hectares of bamboo are grown for its production.

Of course, bamboo's main function has always been in domestic applications, and as a locally traded commodity it's worth about US\$4.5 billion annually. Because of its versatility, flexibility and strength (its tensile strength compares to that of some steel), it has traditionally been used in construction. Today, more than one billion people worldwide live in bamboo houses. Bamboo is often the only readily available raw material for people in many developing countries, says Chris Stapleton, a research associate at the Royal Botanic Gardens. "Bamboo can be harvested from forest areas or grown quickly elsewhere, and then converted simply without expensive machinery or facilities," he says. "In this way, it contributes substantially to poverty alleviation and wealth creation."

### Section E

Given bamboo's value in economic and ecological terms, the picture painted by the UNEP report is all the more worrying. But keen horticulturists will spot an apparent contradiction here. Those who've followed the recent vogue for cultivating exotic species in their gardens will point out that if it isn't kept in check, bamboo can cause real problems. "In a lot of places, the people who live with bamboo don't perceive it as being endangered in any way," says Kapos. "In fact, a lot of bamboo species are actually very invasive if they've been introduced." So why are so many species endangered?

There are two separate issues here, says Ray Townsend, vice president of the British Bamboo Society and arboretum manager at the Royal Botanic Gardens. "Some plants are threatened because they can't survive in the habitat – they aren't strong enough or there aren't enough of them, perhaps. But bamboo can take care of itself – it is strong enough to survive if left alone. What is under threat is its habitat." It is the physical disturbance that is the threat to bamboo, says Kapos. "When forest goes, it is converted into something else: there isn't anywhere for forest plants such as bamboo to grow if you create a cattle pasture."

### Section F

Around the world, bamboo species are routinely protected as part of forest ecosystems in national parks and reserves, but there is next to nothing that protects bamboo in the wild for its own sake. However, some small steps are being taken to address this situation. The UNEP-INBAR report will help conservationists to establish effective measures aimed at protecting valuable wild bamboo species.

Townsend, too, sees the UNEP report as an important step forwards in promoting the cause of bamboo conservation. "Until now, bamboo has been perceived as a second-class plant. When you talk about places such as the Amazon, everyone always thinks about the hardwoods. Of course these are significant, but there is a tendency to overlook the plants they are associated with, which are often bamboo species. In many ways, it is the most important plant known to man. I can't think of another plant that is used so much and is so commercially important in so many countries." He believes that the most important first step is to get scientists into the field. "We need to go out there, look at these plants and see how they survive, and then use that information to conserve them for the future."

### Questions 1-7

Reading Passage 1 has six sections A-F.

Which section contains the following information?

Write the correct letter A-F in boxes 1-7 on your answer sheet.

NB You may use any letter more than once.

- 1 Comparison of bamboo with other plant species
- 2 Commercial products of bamboo
- 3 Limited extent of existing research
- 4 A human development that destroyed large areas of bamboo
- 5 How bamboos are put to a variety of uses
- 6 An explanation of how bamboo can help the survival of a range of plants
- 7 The methods used to study bamboo

### Questions 8-11

Look at the statements (Questions 8-11) and the list of people on the next page.

Match each statement with the correct person A, B, C or D.

Write the correct letter A, B, C or D in boxes 8-11 on your answer sheet.

NB You may use any letter more than once.

- 8 Destroying bamboo poses a threat to wildlife.
- 9 People have very limited knowledge of bamboo.
- 10 Some people think bamboo is not really endangered.
- 11 Bamboo has immeasurable commercial potentials.

**List of People**

- |   |                 |
|---|-----------------|
| A | Ian Redmond     |
| B | Valerie Kapos   |
| C | Ray Townsend    |
| D | Chris Stapleton |

**Questions 12-13**

Answer the questions below using **NO MORE THAN TWO WORDS** from the passage for each answer.

Write your answers in boxes 12-13 on your answer sheet.

- 12 What environmental problem does the unique root system of bamboo prevent?
- 13 Which bamboo product is experiencing market expansion?



## Reading Passage 2

You should spend about 20 minutes on Questions 14–26 which are based on Reading Passage 2 below.

### Children's Literature

Stories and poems aimed at children have an exceedingly long history: lullabies, for example, were sung in Roman times, and a few nursery games and rhymes are almost as ancient. Yet so far as written-down literature is concerned, while there were stories in print before 1700 that children often seized on when they had the chance, such as translations of Aesop's fables, fairy stories and popular ballads and romances, these were not aimed at young people in particular. Since the only genuinely child-oriented literature at this time would have been a few instructional works to help with reading and general knowledge, plus the odd Puritanical tract as an aid to morality, the only course for keen child readers was to read adult literature. This still occurs today, especially with adult thrillers or romances that include more exciting, graphic detail than is normally found in the literature for younger readers.

By the middle of the 18th century, there were enough eager child readers, and enough parents glad to cater to this interest, for publishers to specialise in children's books whose first aim was pleasure rather than education or morality. In Britain, a London merchant named Thomas Boreham produced *Cajanus, The Swedish Giant* in 1742, while the more famous John Newbery published *A Little Pretty Pocket Book* in 1744. Its contents – rhymes, stories, children's games plus a free gift ('A ball and a pincushion') – in many ways anticipated the similar lucky-dip contents of children's annuals this century. It is a tribute to Newbery's flair that he hit upon a winning formula quite so quickly, to be pirated almost immediately in America.

Such pleasing levity was not to last. Influenced by Rousseau, whose *Emile* (1762) decreed that all books for children save *Robinson Crusoe* were a dangerous diversion, contemporary critics saw to it that children's literature should be instructive and uplifting. Prominent among such voices was Mrs. Sarah Trimmer, whose magazine *The Guardian of Education* (1802) carried the first regular reviews of children's books. It was she who condemned fairy tales for their violence and general absurdity; her own stories *Fabulous Histories* (1786) described talking animals who were always models of sense and decorum.



So the moral story for children was always threatened from within, given the way children have of drawing out entertainment from the sternest moralist. But the greatest blow to the improving children's book was to come from an unlikely source indeed: early 19th-century interest in folklore. Both nursery rhymes, selected by James Orchard Halliwell for a folklore society in 1842, and a collection of fairy stories by the scholarly Grimm brothers, swiftly translated into English in 1823, soon rocket to popularity with the young, quickly leading to new editions, each one more child-centred than the last. From now on, younger children could expect stories written for their particular interest and with the needs of their own limited experience of life kept well to the fore.

What eventually determined the reading of older children was often not the availability of special children's literature as such but access to books that contained characters, such as young people or animals, with whom they could more easily empathise, or action, such as exploring or fighting, that made few demands on adult maturity or understanding.

The final apotheosis of literary childhood as something to be protected from unpleasant reality came with the arrival in the late 1930s of child-centred best-sellers intent on entertainment at its most escapist. In Britain, novelists such as Enid Blyton and Richmal Crompton described children who were always free to have the most unlikely adventures, secure in the knowledge that nothing bad could ever happen to them in the end. The fact that war broke out again during her books' greatest popularity fails to register at all in the self-enclosed world inhabited by Enid Blyton's young characters. Reaction against such dreamworlds was inevitable after World War II, coinciding with the growth of paperback sales, children's libraries, and a new spirit of moral and social concern. Urged on by committed publishers and progressive librarians, writers slowly began to explore new areas of interest while also shifting the settings of their plots from the middle-class world to which their chiefly adult patrons had always previously belonged.

Critical emphasis, during this development, has been divided. For some the most important task was to rid children's books of the social prejudice and exclusiveness no longer found acceptable. Others concentrated more on the positive achievements of contemporary children's literature. That writers of these works are now often recommended to the attention of adult as well as child readers echoes the 19th-century belief that children's literature can be shared by the generations, rather than being a defensive barrier between childhood and the necessary growth towards adult understanding.



## Questions 14-18

Complete the table below.

Choose NO MORE THAN TWO WORDS from Reading Passage 2 for each answer.

Write your answers in boxes 14-18 on your answer sheet.

DATE	FEATURE	AIM	EXAMPLE
Before 1700	Not aimed at young children	Education and morality	Puritanical tract
By the middle of 18th century	Collection of 14 _____ and games	Read for pleasure	<i>A Little Pretty Pocket Book</i> (exported to 15 _____)
Early 19th century	Growing interest in 16 _____	To be more children-centred	Nursery rhymes and 17 _____
Late 1930s	Stories of harm-free 18 _____	Entertainment	Enid Blyton and Richmal Crompton's novels

## Questions 19-21

Look at the following people (Question 19-21) and the list of statements on the next page.

Match each person with the correct statement A-E.

Write the correct letter A-E in boxes 19-21 on your answer sheet.

19 Thomas Boreham

20 Mrs. Sarah Trimmer

21 Grimm Brothers

### List of Statements

- A Wrote criticisms of children's literature
- B Used animals to demonstrate the absurdity of fairy tales
- C Was not a writer originally
- D Translated a book into English
- E Didn't write in the English language

### Questions 22-26

Do the following statements agree with the information given in Reading Passage 2?

In boxes 22-26 on your answer sheet 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

- 22 Children didn't start to read books until 1700.
- 23 Sarah Trimmer believed that children's books should set good examples.
- 24 Parents were concerned about the violence in children's books.
- 25 An interest in the folklore changed the direction of the development of children's books.
- 26 Today children's book writers believe their works should appeal to both children and adults.



## Reading Passage 3

You should spend about 20 minutes on Questions 27-40 which are based on Reading Passage 3 below.

### Talc Powder

*Peter Brigg discovers how talc from Luzenac's Trimouns in France finds its way into food and agricultural products – from chewing gum to olive oil.*

High in the French Pyrenees, some 1,700m above sea level, lies Trimouns, a huge deposit of hydrated magnesium silicate – talc to you and me. Talc from Trimouns, and from ten other Luzenac mines across the globe, is used in the manufacture of a vast array of everyday products extending from paper, paint and plaster to cosmetics, plastics and car tyres. And of course there is always talc's best known end use: talcum powder for babies' bottoms. But the true versatility of this remarkable mineral is nowhere better displayed than in its sometimes surprising use in certain niche markets in the food and agriculture industries.

Take, for example, the chewing gum business. Every year, Talc de Luzenac France – which owns and operates the Trimouns mine and is a member of the international Luzenac Group (part of Rio Tinto Minerals) – supplies about 6,000 tonnes of talc to chewing gum manufacturers in Europe. "We've been selling to this sector of the market since the 1960s," says Laurent Fournier, sales manager in Luzenac's Specialties business unit in Toulouse. "Admittedly, in terms of our total annual sales of talc, the amount we supply to chewing gum manufacturers is relatively small, but we see it as a valuable niche market: one where customers place a premium on securing supplies from a reliable, high-quality source. Because of this, long-term allegiance to a proven supplier is very much a feature of this sector of the talc market. "Switching sources – in the way that you might choose to buy, say, paper clips from Supplier A rather than from Supplier B – is not an easy option for chewing gum manufacturers," Fournier says. "The cost of reformulating is high, so when customers are using a talc grade that works, even if it's expensive, they are understandably reluctant to switch."

But how is talc actually used in the manufacture of chewing gum? Patrick Delord, an engineer with a degree in agronomics, who has been with Luzenac for 22 years and is now senior market development manager, Agriculture and Food, in Europe, explains that chewing gum has four main components. "The most important of them is the gum base," he says. "It's the gum base that puts the chew into chewing gum. It binds all the ingredients together, creating a soft, smooth texture. To this the manufacturer then adds sweeteners, softeners and flavourings. Our talc is used as a filler in the gum base. The amount varies between, say, 10 and 35 per cent, depending on the type of gum. Fruit-flavoured chewing gum, for example, is slightly acidic and would react with the calcium carbonate that the manufacturer might otherwise use as a filler. Talc, on the other hand, makes an ideal filler because it's non-reactive chemically. In the factory, talc is also used to dust the gum base pellets and to stop the chewing gum sticking during the lamination and packing processes," Delord adds.

The chewing gum business is, however, just one example of talc's use in the food sector. For the past 20 years or so, olive oil processors in Spain have been taking advantage of talc's unique characteristics to help them boost the amount of oil they extract from crushed olives. According to Patrick Delord, talc is especially useful for treating what he calls "difficult" olives. After the olives are harvested – preferably early in the morning because their taste is better if they are gathered in the cool of the day – they are taken to the processing plant. There they are crushed and then stirred for 30-45 minutes. In the old days, the resulting paste was passed through an olive press but nowadays it's more common to add water and centrifuge the mixture to separate the water and oil from the solid matter. The oil and water are then allowed to settle so that the olive oil layer can be decanted off and bottled. "Difficult" olives are those that are more reluctant than the norm to yield up their full oil content. This may be attributable to the particular species of olive, or to its water content and the time of year the olives are collected – at the beginning and the end of the season, their water content is often either too high or too low. These olives are easy to recognise because they produce a lot of extra foam during the stirring process, a consequence of an excess of a fine solid that acts as a natural emulsifier. The oil in this emulsion is lost when the water is disposed of. Not only that, if the waste water is disposed of directly into local fields – often the case in many smaller processing operations – the emulsified oil may take some time to biodegrade and so be harmful to the environment.



"If you add between a half and two per cent of talc by weight during the stirring process, it absorbs the natural emulsifier in the olives and so boosts the amount of oil you can extract," says Delord. "In addition, talc's flat, 'platy' structure helps increase the size of oil droplets liberated during stirring, which again improves the yield. However, because talc is chemically inert, it doesn't affect the colour, taste, appearance or composition of the resulting olive oil."

If the use of talc in olive oil processing and in chewing gum is long established, new applications in the food and agriculture industries are also constantly being sought by Luzenac. One such promising new market is fruit crop protection, being pioneered in the US. Just like people, fruit can get sunburned. In fact, in very sunny regions, up to 45 per cent of a typical crop can be affected by heat stress and sunburn. However, in the case of fruit, it's not so much the ultraviolet rays which harm the crop as the high surface temperature that the sun's rays create.

To combat this, farmers normally use either chemicals or spray a continuous fine canopy of mist above the fruit trees or bushes. The trouble is, this uses a lot of water – normally a precious commodity in hot, sunny areas – and it is therefore expensive. What's more, the ground can quickly become waterlogged. "So our idea was to coat the fruit with talc to protect it from the sun," says Greg Hunter, a marketing specialist who has been with Luzenac for ten years. "But to do this, several technical challenges had first to be overcome. Talc is very hydrophobic; it doesn't like water. So in order to have a viable product, we needed a wettable powder – something that would go readily into suspension so that it could be sprayed onto the fruit. It also had to break the surface tension of the cutin (the natural waxy, waterproof layer on the fruit) and of course, it had to wash off easily when the fruit was harvested. No one's going to want an apple that's covered in talc."

Initial trials in the State of Washington in 2003 showed that when the product was sprayed onto Granny Smith apples, it reduced their surface temperature and lowered the incidence of sunburn by up to 60 per cent. Today the new product, known as Invelop® Maximum SPF, is in its second commercial year on the US market. Apple growers are the primary target although Hunter believes grape growers represent another sector with long-term potential. He is also hopeful of extending sales to overseas markets such as Australia, South America and southern Europe.

Questions 27-32

Classify the following uses of talc powder as referring to

- A Chewing gum manufacture
- B Olive oil extraction
- C Fruit crop protection

Write the correct letter A, B or C in boxes 27-32 on your answer sheet.

- 27 Talc is used to prevent foaming.
- 28 Talc is used to prevent stickiness.
- 29 Talc is used to boost production.
- 30 Talc is used as a filler to provide a base.
- 31 Talc is used to prevent sunburn.
- 32 Talc is used to help increase the size of the product.

Questions 33-38

Complete the summary below using NO MORE THAN TWO WORDS from the passage for each answer.

Write your answers in boxes 33-38 on your answer sheet.

The use of talc powder in the olive oil industry in Spain has been around for 33 \_\_\_\_\_ years. It is extremely useful in dealing with "difficult" olives which often produce a lot of 34 \_\_\_\_\_ due to the high content of solid matter.

The traditional method of oil extraction used in some smaller plants often produces 35 \_\_\_\_\_, which contains emulsified oil, and if it is directly disposed of, it may be 36 \_\_\_\_\_ to the environment, because it cannot 37 \_\_\_\_\_. But adding talc powder can absorb the emulsifier and increase the production, because the size of oil 38 \_\_\_\_\_ grows.



Questions 39-40

Answer the questions below using NO MORE THAN TWO WORDS from the passage for each answer.

Write your answers in boxes 39-40 on your answer sheet.

39 What are the last two stages of chewing gum manufacturing process?

40 Which group of farmers does Invelop® intend to target next?

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