

# IELTSFEVER ACADEMIC READING TEST 68

## *Reading Passage 1*

*You are advised to spend about 20 minutes on Questions 1 - 13 which refer to Reading Passage 1 below*

## Wild Foods of Australia

Over 120 years ago, the English botanist J. D. Hooker, writing of Australian edible plants, suggested that many of them were 'eatable but not worth eating'. Nevertheless, the Australian flora, together with the fauna, supported the Aboriginal people well before the arrival of Europeans. The Aborigines were not farmers and were wholly dependent for life on the wild products around them. They learned to eat, often after treatment, a wide variety of plants.

The conquering Europeans displaced the Aborigines, killing many, driving others from their traditional tribal lands, and eventually settling many of the tribal remnants on government reserves, where flour and beef replaced nardoo and wallaby as staple foods. And so, gradually, the vast store of knowledge, accumulated over thousands of years, fell into disuse. Much was lost.

However, a few European men took an intelligent and even respectful interest in the people who were being displaced. Explorers, missionaries, botanists, naturalists and government officials observed, recorded and, fortunately in some cases, published. Today, we can draw on these publications to form the main basis of our knowledge of the edible, natural products of Australia. The picture is no doubt mostly incomplete. We can only speculate on the number of edible plants on which no observation was recorded.

Not all our information on the subject comes from the Aborigines. Times were hard in the early days of European settlement, and traditional foods were often in short supply or impossibly expensive for a pioneer trying to establish a farm in the bush. And so necessity led to experimentation, just as it must have done for the Aborigines, and experimentation led to some lucky results. So far as is known, the Aborigines made no use of *Leptospermum* or *Dodonaea* as food plants, yet the early settlers found that one could be used as a substitute for tea and the other for hops. These plants are not closely related to the species they replaced, so their use was not based on botanical observation. Probably some experiments had less happy endings; L. J. Webb has used the expression eat, die and learn in connection with the Aboriginal experimentation, but it was the successful attempts that became widely known. It is possible that the edibility of some native plants used by the Aborigines was discovered independently by the European settlers or their descendants.

Explorers making long expeditions found it impossible to carry sufficient food for the whole journey and were forced to rely, in part, on food that they could find on the way. Still another source of information comes from the practice in other countries. There are many species from northern Australia which occur also in Southeast Asia, where they are used for food.

In general, those Aborigines living in the dry inland areas were largely dependent for their vegetable foods on seed such as those of grasses, acacias and eucalypts. They ground these seeds between flat stones to make a coarse flour. Tribes on the coast, and

particularly those in the vicinity of coastal rainforests, had a more varied vegetable diet with a higher proportion of fruits and tubers. Some of the coastal plants, even if they had grown inland, probably would have been unavailable as food since they required prolonged washing or soaking to render them non-poisonous; many of the inland tribes could not obtain water in the quantities necessary for such treatment. There was also considerable variation in the edible plants available to Aborigines in different latitudes. In general, the people who lived in the moist tropical areas enjoyed a much greater variety, than those in the southern part of Australia.

With all the hundreds of plant species used for food by the Australian Aborigines, it is perhaps surprising that only one, the Queensland nut, has entered into commercial cultivation as a food plant. The reason for this probably does not lie with an intrinsic lack of potential in Australian flora, but rather with the lack of exploitation of this potential. In Europe and Asia, for example, the main food plants have had the benefit of many centuries of selection and hybridisation, which has led to the production of forms vastly superior to those in the wild. Before the Europeans came, the Aborigines practised no agriculture and so there was no opportunity for such improvement; either deliberate or unconscious, in the quality of the edible plants.

Since 1788, there has, of course, been opportunity for selection of Australian food plants which might have led to the production of varieties that were worth cultivating. But Australian plants have probably 'missed the bus'. Food plants from other regions were already so far in advance after a long tradition of cultivation that it seemed hardly worth starting work on Australian species. Undoubtedly, the native raspberry, for example, could, with suitable selection and breeding programs, be made to yield a high-class fruit; but Australians already enjoy good raspberries from other areas of the world and unless some dedicated amateur plant breeder takes up the task, the Australian raspberries are likely to remain unimproved.

And so, today, as the choice of which food plants to cultivate in Australia has been largely decided, and as there is little chance of being lost for long periods in the bush. Our interest in the subject of Australian food plants tends to relate to natural history rather than to practical necessity.

Questions 1-7

*Do the following statements reflect the claims of the writer in the reading passage? In boxes 1 - 7 write:*

*YES* if the statement reflects the writer's claims  
*NO* if the statement contradicts the writer  
*NOT GIVEN* if there is no information about this in the passage

- (1) Most of the pre-European Aboriginal knowledge of wild foods has been recovered.
- (2) There were few food plants unknown to pre-European Aborigines.
- (3) Europeans learned all of what they knew of edible wild plants from Aborigines.
- (4) Dodonaea is an example of a plant used for food by both pre-European Aborigines and European settlers.
- (5) Some Australian food plants are botanically related to plants outside Australia.
- (6) Pre-European Aboriginal tribes closer to the coast had access to a greater variety of food plants than tribes further inland.
- (7) Some species of coastal food plants were also found inland.

## Questions 8 - 10

Choose the appropriate letters (A-D) and write them in boxes 8-10 on your answer sheet.

## (8) Wallaby meat...

- [A] was regularly eaten by Aborigines before European settlement.
- [B] was given by Aborigines in exchange for foods such as flour.
- [C] was a staple food on government reserves.
- [D] was produced on farms before European settlement.

## (9) Experimentation with wild plants ...

- [A] depended largely on botanical observation.
- [B] was unavoidable for early settlers in all parts of Australia.
- [C] led Aborigines to adopt *Leptospermum* as a food plant.
- [D] sometimes had unfortunate results for Aborigines.

## (10) Wild plant used by Aborigines ...

- [A] was limited to dry regions.
- [B] was restricted to seed.
- [C] sometimes required the use of tools.
- [D] was more prevalent in the southern part of Australia.

## Questions 11 -13

Complete the partial summary below. Choose ONE or TWO words from the passage for each answer. Write your answers in boxes 11 -13 on your answer sheet.

Despite the large numbers of wild plants that could be used for food, only one, the ... (11) ... is being grown as a cash crop. Other edible plants in Australia, however much potential they have for cultivation, had not gone through the lengthy process of... (12) ... that would allow their exploitation, because Aborigines were not farmers. Thus species such as the ... (13)..., which would be an agricultural success had it not had to compete with established European varieties at the time of European settlement, are of no commercial value.

## Reading Passage 2

You are advised to spend about 25 minutes on Questions 14 - 27 which refer to Reading Passage 2 below.

## Rising Seas

Paragraph 1 **INCREASED TEMPERATURES** The average air temperature at the surface of the earth has risen this century, as has the temperature of ocean surface waters.

Because water expands as it heats, a warmer ocean means higher sea levels. We cannot say definitely that the temperature rises are due to the greenhouse effect; the heating may be part of a 'natural variability over a long time-scale that we have not yet recognized in

our short 100 years of recording. However, assuming the build up of greenhouse gases is responsible, and that the warming will continue, scientists-and inhabitants of low-lying coastal areas-would like to know the extent of future sea level rises.

Paragraph 2 \_\_\_\_\_

Calculating this is not easy. Models used for the purpose have treated the ocean as passive, stationary and one-dimensional. Scientists have assumed that heat simply diffused into the sea from the atmosphere. Using basic physical laws, they then predict how much a known volume of water would expand for a given increase in temperature. But the oceans are not one-dimensional, and recent work by oceanographers, using a new model which takes into account a number of subtle facets of the sea-including vast and complex ocean currents-suggests that the rise in sea level may be less than some earlier estimates had predicted.

Paragraph 3 \_\_\_\_\_

An international forum on climate change, in 1986, produced figures for likely sea-level rises of 20 cm and 1.4 m, corresponding to atmospheric temperature increases of 1.5°C and 4.5°C respectively. Some scientists estimate that the ocean warming resulting from those temperature increases by the year 2050 would raise the sea level by between 10 cm and 40 cm. This model only takes into account the temperature effect on the oceans; it does not consider changes in sea level brought about by the melting of ice sheets and glaciers, and changes in ground water storage. When we add on estimates of these, we arrive at figures for total sea-level rises of 15 cm and 70 cm respectively.

Paragraph 4 \_\_\_\_\_

It's not easy trying to model accurately the enormous complexities of the everchanging oceans, with their great volume, massive currents and sensitivity to the influence of land masses and the atmosphere. For example, consider how heat enters the ocean. Does it just 'diffuse' from the warmer air vertically into the water, and heat only the surface layer of the sea? (Warm water is less dense than cold, so it would not spread downwards.) Conventional models of sea-level rise have considered that this is the only method, but measurements have shown that the rate of heat transferred into the ocean by vertical diffusion is far lower in practice than the figures that many modelers have adopted.

Paragraph 5 \_\_\_\_\_

Much of the early work, for simplicity, ignored the fact that water in the oceans moves in three dimensions. By movement, of course, scientists don't mean waves, which are too small individually to consider, but rather movement of vast volumes of water in huge currents. To understand the importance of this, we now need to consider another process--advection imagine smoke rising from a chimney. On a still day it will slowly spread out in all directions by means of diffusion. With a strong directional wind, however, it will all shift downwind. This process is advection--the transport of properties (notably heat and salinity in the ocean) by the movement of bodies of air or water, rather than by conduction or diffusion.

Paragraph 6 \_\_\_\_\_

Massive ocean currents called gyres do the moving. These currents have far more capacity to store heat than does the atmosphere. Indeed, Just the top 3 m of the ocean contains more heat than the whole of the atmosphere. The origin of gyres lies in the fact that more heat from the Sun reaches the Equator than the Poles, and naturally heat tends

to move from the former to the latter. Warm air rises at the Equator, and draws more air beneath it in the form of winds (the 'Trade Winds') that, together with other air movements, provide the main force driving the ocean currents.

Paragraph 7 \_\_\_\_\_

Water itself is heated at the Equator and moves poleward, twisted by the Earth's rotation and affected by the positions of the continents. The resultant broadly circular movements between about 10 and 40° North and South are clockwise in the Northern Hemisphere and anticlockwise in the Southern Hemisphere. They flow towards the east at mid latitudes in the equatorial region. They then flow towards the Poles, along the eastern sides of continents, as warm currents. When two different masses of water meet, one will move beneath the other, depending on their relative densities in the subduction process. The densities are determined by temperature and salinity. The convergence of water of different densities from the Equator and the Poles deep in the oceans causes continuous subduction. This means that water moves vertically as well as horizontally. Cold water from the Poles travels at depth—it is denser than warm water—until it emerges at the surface in another part of the world in the form of a cold current.

Paragraph 8 HOW THE GREEN HOUSE EFFECT WILL CHANGE OCEAN TEMPERATURES. Ocean currents, in three dimensions, form a giant conveyor belt', distributing heat from the thin surface layer into the interior of the oceans and around the globe. Water may take decades to circulate in these 3-D gyres in the top kilometre of the ocean, and centuries in the deeper water. With the increased atmospheric temperatures due to the greenhouse effect, the oceans' conveyor belt will carry more heat into the interior. This subduction moves heat around far more effectively than simple diffusion. Because warm water expands more than cold when it is heated, scientists had presumed that the sea level would rise unevenly around the globe. It is now believed that these inequalities cannot persist, as winds will act to continuously spread out the water expansion. Of course, if global warming changes the strength and distribution of the winds, then this evening-out' process may not occur, and the sea level could rise more in some areas than others.

Questions 14 - 19

*There are 8 paragraphs numbered 1-8 in Reading Passage 2. The first paragraph and the last paragraph have been given headings. From the list below numbered A-I, choose a suitable heading for the remaining 6 paragraphs. Write your answers A-I, in the spaces numbered 14-19 on the answer sheet. There are more headings than paragraphs, so you will not use all the headings.*

List of headings

- [A] THE GYRE PRINCIPLE
- [B] THE GREENHOUSE EFFECT
- [C] HOW OCEAN WATERS MOVE
- [D] STATISTICAL EVIDENCE
- [E] THE ADVECTION PRINCIPLE
- [F] DIFFUSION VERSUS ADVECTIONS
- [G] FIGURING THE SEA LEVEL CHANGES
- [H] ESTIMATED FIGURES

## [I] THE DIFFUSION MODELETE

- (14) Paragraph 2
- (15) Paragraph 3
- (16) Paragraph 4
- (17) Paragraph 5
- (18) Paragraph 6
- (19) Paragraph 7

## Questions 20 and 21

Answer questions 20 and 21 by selecting the correct answer to complete each sentence according to the information given in the reading passage. Write your answers A, B, C or D in the spaces numbered 20 and 21 on the answer sheet.

(20) Scientists do not know for sure why the air and surface of ocean temperatures are rising because:

- [A] there is too much variability
- [B] there is not enough variability
- [C] they have not been recording these temperatures for enough time
- [D] the changes have only been noticed for 100 years

(21) New research leads scientists to believe that:

- [A] the oceans are less complex
- [B] the oceans are more complex
- [C] the oceans will rise more than expected
- [D] the oceans will rise less than expected

## Question 22

Look at the following list of factors A-F and select **THREE** which are mentioned in the reading passage which may contribute to the rising ocean levels. Write the **THREE** corresponding letters A-F, in the space numbered 22 on the answer sheet

## List of factors

- [A] thermal expansion
- [B] melting ice
- [C] increased air temperature
- [D] higher rainfall
- [E] changes in the water table
- [F] increased ocean movement

## Questions 23-27

Read each of the following statements, 23 - 27. According to the information in the reading passage, if the statement is true, write T, if it is false, write F and if there is no information about the statement in the reading passage, write NI. Write your answers in the spaces numbered 23-27 on the answer sheet.

- (23) The surface layer of the oceans is warmed by the atmosphere.
- (24) Advection of water changes heat and salt levels.
- (25) A gyre holds less heat than there is in the atmosphere.
- (26) The process of subduction depends on the water density.
- (27) The sea level is expected to rise evenly over the Earth's surface.

### Reading Passage 3

*You are advised to spend about 20 minutes on Questions 28 - 40 which are based on Reading Passage 3 below.*

## Fermented Foods for Babies

Malnutrition during weaning age-when breast milk is being replaced by semisolid foods-is highly prevalent in children of poor households in many developing countries. While the etiology is complex and multifactorial, the immediate causes are recognized as feeding at less than adequate levels for child growth and development, and recurrent infections, including diarrhoea, resulting mainly from ingestion of contaminated foods. As a result, many young children, particularly between six months to two years of age, experience weight loss and impaired growth and development.

Studies by investigators in various countries have concentrated on traditional food preparation methods and have resulted in offering cheap and practical answers to these problems based on familiar, indigenous and culturally acceptable home processing practices.

Two such answers have arisen. Firstly, cereal fermentation is used for reducing the risk of contamination under the existing inappropriate conditions for food preparation and storage in many households. Secondly, a tiny amount of sprouted grains flour is used in preparation of weaning foods as a magic way to lessen the viscosity without decreasing energy density.

A method to eliminate pathogenic bacteria and inhibit their growth during storage of weaning preparations can benefit nutrition and health in young children considerably. Use of fermented foods for feeding children of weaning age appears to be an effective solution. Fermented foods have lower levels of diarrhoea germ contamination, they are suitable for child feeding, and can be safely stored for much longer periods of time than fresh foods. The practice has been a traditional way of food preservation in many parts of the world. The anti-microbial properties of fermented foods and their relative higher safety-documented since the early 1900's-have been indicated in a number of studies.

In Ghana, it is common to ferment maize dough before cooking it as porridge. In Kenya, cereal-based porridge and milk are traditionally fermented. Preserving milk in the form of yoghurt has been known to many households living in hot climates.

What are the underlying mechanisms by which fermentation processes help to prevent or reduce contamination? A possible answer suggests that during the fermentation process foods become more acid. This explains why diarrhoea-causing bacteria are not able to grow in fermented foods as rapidly as in unfermented ones. It is also hypothesized that some of the germs present in the foods are killed or inhibited from growing through the action of anti-microbial substances produced during fermentation (Dialogue on Diarrhoea, 1990). The fermented foods can, therefore, be kept for a longer

time compared to fresh ones. It has been shown that while contamination levels in cooked unfermented foods increase with storage time, fermented foods remain less contaminated.

Whatever the underlying mechanisms, the fact is that the exercise reduces contamination without adding to the household cost both in terms of time and money. Its preparation is easy. The cereal flour is mixed with water to form a dough which is left to be fermented; addition of yeast, or mixing with a small portion of previously fermented dough is sometimes needed. The dough can then be cooked into porridge for feeding to the child.

Although beneficial, unfortunately the practice is going out of fashion, partly because of current emphasis on the use of fresh foods, particularly for children. For example, a study on the use of fermented foods for young children in Kenya ( Dialogue on Diarrhoea, 1990), demonstrated that while foods are still frequently fermented at home for child feeding, their use is becoming less popular, particularly in urban areas where commercial products are more available. Clearly they now need to be promoted.

#### Questions 28 - 34

*Below is a summary of some of the main points of Reading Passage 3, "Fermented Foods for Babies". Read the summary and then select the best word or phrase from the box below to fill each gap, according to the information in the Reading Passage. Write the corresponding letter (A, B, ...N) in boxes 28 -34 on your answer sheet. N. B. There are more words and phrases than you will need to fill the gaps. You may use a word or phrase more than once if you wish. Summary: Fermented Foods for Babies Example: During... (Ex.)... , many infants in developing countries may obtain inadequate nutrition Answer:M*

Malnutrition and the resulting impaired growth and development in children of weaning age in developing countries results not only from... (28)... but also from infections caused by... (29)... Studies have addressed the problem of inadequate intake by using sprouted grains in food preparation. Contamination has been tackled with... (30)... Both of these methods are, or were, used traditionally and are practical and inexpensive. Fermented foods have higher... (31)..., and also have anti-microbial qualities. This means that contamination is decreased and that their... (32)... is increased. Fermentation occurs when... (33)... is left to stand, occasionally with simple additives. There is, however, a trend away from this... (34)... to commercial products.

[A] porridge	[H] storage life
[B] malnutrition	[I] sprouted grains
[C] fermentation	[J] inadequate food intake
[D] new technology	[K] acidity
[E] contaminated food	[L] unfermented food
[F] diarrhoeal germs	[M] weaning
[G] traditional food	[N] dough



## Question 35

Choose from the four options below the best answer to the following question. Write the appropriate letter( A, B, C, or D) in box 35 on your answer sheet.

35. Why is the fermentation of foods being investigated?

[A] It not only improves the nutritional value of food, but also is a process which is cheap and easy.

[B] It is a traditional method of food preparation which is becoming less popular.

[C] It both inhibits food contamination and enhances storability.

[D] It is done using maize flour which is used everywhere as food for infants between 6 months and 2 years of age.

Questions 36 -40

The statements below relate to Reading Passage 3, "Fermented Foods for Babies".

Identify them by marking

✓ if the statement accurately reflects the information in the text

X if the statement contradicts the information

? if there is no information about the statement in the text

Write your answers in boxes 36 -40 on your answer sheet.

Example: Antimicrobial substances in fermented foods cause acidity. Answer: ?

(36) Fermented foods are free of contamination.

(37) It can be beneficial to ferment breast milk before feeding to young children.

(38) Cooked foods can be stored longer than fresh foods.

(39) Cereals can be fermented by adding water and letting the dough stand.

(40) Traditional fermented foods are being replaced by commercial products in some locations.