

ENGLE205F

Module 7

**Preparing for the IELTS
Academic Reading test**

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Introduction

This module prepares you for the Academic Reading section of the IELTS test. The test takes one hour and in it you are asked to complete a total of 40 questions, based on three different reading passages. The texts come from magazines, journals, books, and newspapers. Despite the title of this part of the test – Academic Reading – the texts have been written for a non-specialist audience. The topics are general in nature and deal with issues which are interesting, appropriate and accessible to candidates.

The test includes various types of questions chosen from the following:

- multiple choice / short-answer questions
- sentence completion / notes / summary / diagram / flow chart / table completion
- choosing from a ‘heading bank’ for identified paragraphs/sections of a text
- identification of a writer’s views/claims and of factual information in a text – ‘yes’, ‘no’ or ‘not given’ / ‘true’, ‘false’ or ‘not given’
- classification / matching lists/phrases.

In this module, we discuss a range of relevant test questions and offer you guidance on answering them. We look at general strategies for handling reading questions and specific strategies for the major question types you will meet in the test.

Multiple choice is a common question type for reading as well as for listening, so the strategies we discussed in *Module 4* related to multiple-choice questions for listening also apply here. In this module, we revisit multiple choice and also focus on the other types of questions you will encounter – gap-fill and completion questions, questions that require you to select appropriate headings or topic sentences for passages and paragraphs, and true/false questions.

Throughout the module, we revise many of the reading strategies and skills that you covered in *Module 3* and consider how you can successfully apply these skills and strategies to tackle a range of reading questions.

In addition, you will learn to use the following strategies effectively for answering reading questions under timed conditions:

- applying word-attack skills
- recognizing synonyms for key words and ideas
- scanning a passage for specific detail and supporting information

- identifying main ideas by selecting appropriate headings and titles for a passage or a paragraph
- choosing a correct paraphrase for a paragraph's topic sentence
- showing awareness of a writer's attitude or bias, and his/her purpose; and
- linking key words in a question to similar words in a passage.

The passages in this module deal with some of the topics that you *might* encounter in the IELTS test. These include environmental issues and topics related to society and development.

Matching questions with suitable reading strategies

In *Module 4*, we looked at various types of multiple-choice questions that are used in listening tests. We discussed strategies for responding to questions of this kind, such as *analysing a question's structure and stem*, and *analysing the content* (or information) that is required by a question. We also noted the importance of identifying *key words* in a multiple-choice question, and we saw that you can sometimes use your *background knowledge* of a topic to *eliminate distractors* (or answers that are definitely incorrect) to narrow the list of possibly correct answers. You may want to review these strategies before you proceed with the rest of this module because you can apply them to multiple-choice reading questions too.

In the Academic Reading test, you will meet a range of question types. The key to handling all reading questions is being able to determine clearly what the question is asking you to do, and then to apply a suitable reading strategy. Let's look at an example of how this is done.

Imagine that you saw the following reading question in the IELTS test:

1 In the first sentence of Passage 1, 'terrestrial' means

- A 'amazing'.
- B 'frightening'.
- C 'Earth's'.
- D 'known'.

What reading skill do you think this question is asking you to use? Would you agree that you need to scan the first sentence to locate 'terrestrial' and then look at the words around it to determine its meaning? This question clearly asks you to read *intensively*, so you need to practise your *scanning skills* and apply some *strategies for understanding the meaning of new or unfamiliar words*. We discussed these skills at length in *Module 3*.

Now, look at another example of a type of question that you might see in the IELTS Reading test:

2 Which of these titles would best fit paragraph 1?

- A A prosperous future
- B A sharp contradiction
- C Shrimp and the world
- D Contrary agencies

This question is clearly not asking you to practise similar skills to Question 1. Instead, it is asking you to understand the *main idea* of a paragraph and express that idea by using one of the given titles. Here, you would probably need to focus on the paragraph's *topic sentence* and match its key idea with the ideas expressed by one of the titles.

Practise matching questions with a suitable reading strategy by completing the following activity.

Activity 7.1

Look at the following questions. Read each question carefully and then consider what reading strategy would be most useful for helping you to answer correctly:

- 1 The writer of this passage could best be described as a/an
 - A economist.
 - B businessperson.
 - C activist.
 - D politician.
 - 2 Which phrase in paragraph 2 alerts us to the dangers of common medicines?

 - 3 Choose the correct headings for sections A to D from the list of headings below:
 - A Thailand exports GM shrimp
 - B Super-shrimp will replace GM shrimp
 - C Thailand wants to become the world's main producer of shrimp
 - D Thailand may produce super-shrimp
 - 4 In sentence 2, the word 'contiguous' could be replaced by
 - A 'surviving'.
 - B 'joined'.
 - C 'large'.
 - D 'unexplored'.
-

As you can see from Activity 7.1, questions can ask you to demonstrate different reading strategies and skills. Completing the Academic Reading test successfully involves a broad range of such strategies and skills, including:

- showing understanding of a text's main ideas by selecting appropriate headings and titles for a passage or paragraph;
- showing understanding of a paragraph's topic sentence by choosing a correct paraphrase;
- scanning a passage for detail and facts;
- showing awareness of the writer's attitude or bias;
- showing awareness of the writer's purpose;
- working out the meaning of words; and
- understanding how the writer organizes his/her ideas.

In this module, we will help you to develop ability in these strategies/skills by answering a range of questions related to six reading passages.

We begin with questions that relate to understanding the meaning of new or unfamiliar words.

Questions that focus on vocabulary

For our first reading text in this module – ‘Amazon under threat’ – we concentrate on questions that test *vocabulary*.

As with any reading passage, you should first spend some time skimming the text for its general meaning and orienting yourself to its structure and main ideas, and briefly considering its purpose (i.e. thinking about why the writer wrote the passage). Do this by looking at the titles and sub-headings, looking at any graphics, giving attention to the beginning and end, reading some topic sentences, and recalling what you already know about this topic.

Begin now by skimming the passage, and then do Activity 7.2 below.

Each question comes with a hint that you may use to help you answer the question. Think about what each question is asking you to find, and then apply an appropriate reading strategy (as in Activity 7.1).

Reading passage 1

Amazon under threat: Climate change and deforestation in the Amazon basin

- 1 The rainforests and tropical woodland savannahs of the Amazon basin contain up to 30% of the terrestrial biological diversity. It is the largest contiguous tropical forest on the planet, almost continental in scale. It is a vast, remote and mysterious rainforest teeming with undiscovered plant and animal life and home for hundreds of indigenous groups, several of them not yet contacted by the non-indigenous.
- 2 The Amazon plays an important role in the global climate system, storing very large quantities of carbon. Its thousands of rivers contain more than 20% of the superficial fresh water on Earth. The water of the Amazon basin is ‘recycled’ within the ecosystem – 75% of the rainfall returns to the atmosphere through evapo-transpiration – leading to a substantial cooling of the region, rather like a massive regional air conditioner.
- 3 But the Amazon is currently caught between two destructive forces – deforestation and climate change.

Deforestation

- 4 The most recent deforestation losses for the period from August 2003 to August 2004 amount to about 23,000 square kilometers according to Brazilian official data. In the last 11 years, the Brazilian Amazon alone has lost 200,000 square kilometers – an area the size of England and Scotland

together. Logging, road building, forest fires, human settlements and the recent burst of conversion of Amazonian lands to cattle farming and agriculture – primarily soya production – are the main culprits.

Climate change

- 5 There is also a growing body of evidence that climate change is having an impact on the forest, making it drier and leading to more forest fires and that these impacts will accelerate over the coming decades. In the worst case scenario, this could lead to the collapse of the Amazon and its transformation into a desert or semi-arid state. A recent study by scientists at the Hadley Centre in the UK, based upon a modeling exercise that includes the vegetative carbon cycle, paints an alarming picture. With the rise in global mean temperature the Amazon gets drier, which leads to more forest fires and forest die-back. This feedback loop leads eventually to the collapse of the Amazon system. (While this is only one model, it captures both the actual weather and the impact of the El Niño phenomenon better than other models and is therefore cause for grave concern).

The destructive cycle

- 6 Disentangling the effects of human activities from those of human induced climate change appears very difficult, as the impacts of climate change are being felt at the same time as the destruction of the forest from direct human activities. Together they create a destructive cycle that threatens to flip the ecosystems of the Amazon from forest to savannah or a semi-desert state.
- 7 The range of human activities that fragment the forest make it even more susceptible to the impacts of global climate change and when these factors are included, it may mean that less extreme drying of the forest will be required to trigger the feedback modeled by the Hadley Centre. Another destructive factor to be considered is the increased smoke in the atmosphere from the increase in forest fires and burning for the purpose of land clearing, which has an impact on local weather patterns. The presence of large quantities of smoke tends to lead to a reduction in rainfall, exacerbating the drying effect from other factors. Increasing CO₂ levels initially lead to the plants in the Amazon system needing less water as water use efficiency increases and the leaf area expands. Despite the larger leaf area, there is a point at which the plants are giving out less water than is needed to maintain the natural air conditioning of the forest. At some point the system is unable to keep up and the CO₂ increase begins to have a negative effect, contributing to the drying out of the forest.

8 In general, these self-reinforcing feedbacks mean that the forest is unable to recover between increasingly frequent episodes of drought and fire, combined with forest fragmentation and loss. Additionally, as most of the water within the Amazon is recycled within a 'closed loop' system a threshold is eventually reached. If the increased temperatures and forest clearance proceed beyond a certain point, the system collapse becomes unrecoverable. There is a general concern that we are very close to this threshold, but it is impossible to pinpoint at this time.

What can be done?

9 But if human degradation and clearance of the Amazon were stopped or stabilized, what would the impacts of climate change look like? There would still be a substantial risk, if not a significant likelihood, that human induced climate changes external to the basin could result in either complete collapse or in substantial degradation and major losses of biodiversity.

10 Consequently, the question of climate change induced impacts on the Amazon emerges as one of the paramount issues confronting international policy on climate change. There is an overwhelming imperative to enact urgent measures to stop the direct destruction of the forest, while at the same time taking urgent measures at the global level to protect the Amazon from the threat of global climate change.

Source: www.greenpeace.org/international/press/reports/amazon-under-threat.

Activity 7.2

In total, there are ten questions in this activity, all related to vocabulary.

To answer these questions, think about all the strategies that you used in *Module 3* to understand the meanings of unfamiliar words:

1 'Terrestrial' (in paragraph 1) means

- A 'amazing'.
- B 'frightening'.
- C 'Earth's'.
- D 'known'.

Hints:

Can you think of any roots which might help you to decide the meaning?

What words also beginning with 'terr' might the test writer think you could confuse with the word 'terrestrial'?

Do the neighbouring sentences in the passage give you any help?

2 'Vast' (in paragraph 1) means

- A 'exciting'.
- B 'hot'.
- C 'wild'.
- D 'huge'.

Hint: What quality has just been stressed?

3 'Indigenous' (in paragraph 1) means

- A 'native-born'.
- B 'Indian'.
- C 'unworthy'.
- D 'primitive'.

Hint: What is the attitude of the writer towards the area?

4 'Superficial' (in paragraph 2) could be replaced with

- A 'essential'.
- B 'known'.
- C 'drinkable'.
- D 'above surface'.

Hint: Think about the prefix: what meaning does super- have?

5 'Primarily' (in paragraph 4) means

- A 'firstly'.
- B 'mainly'.
- C 'unfortunately'.
- D 'potentially'.

Hint: Do not think only of 'primary', 'secondary', 'tertiary', but also of 'prime minister'. Try covering the word in the passage and thinking of replacements.

- 6 Scan for the words 'desert' and 'semi-arid' in paragraph 5, then tick the correct statement:

- A 'Desert' and 'semi-arid' mean the same.
- B 'Desert' is slightly less disastrous than 'semi-arid'.
- C 'Semi-arid' is not as dry as 'desert'.
- D 'Semi-arid' means 'wild'.

Hint: What conjunction comes after 'desert' in the passage?

- 7 'Disentangling' (in paragraph 6) means

- A 'preventing'.
- B 'researching'.
- C 'arguing against'.
- D 'separating'.

Hint: Look at the reason why 'disentangling' is difficult.

- 8 'Fragment' (in paragraph 7) could be replaced by

- A 'destroy'.
- B 'break up'.
- C 'profit from'.
- D 'preserve'.

Hint: 'Fragment' needs to be something slightly different from the activities just mentioned or this would not be a separate point.

- 9 'Trigger' (in paragraph 7) means

- A 'stop'.
- B 'implement'.
- C 'set going'.
- D 'calculate the extent of'.

Hint: What is the writer afraid will happen?

- 10 'Likelihood' (in paragraph 9) means

- A 'advantage'.
- B 'precaution'.
- C 'possibility'.
- D 'similarity'.

Hint: Think of 'likely'.

Questions that focus on rhetorical structure

Before you begin this section, you may wish to revise the skills you practised in the section ‘Understanding the logic and sequence of ideas in a text’ in *Module 3*. As you may recall, we noted there how writers organize the paragraphs of a passage to create and order their arguments, and that they usually follow some set rules or conventions for organizing their ideas. For example, general points are usually made before specific details are provided, and solutions are usually discussed after a problem has been described. Also, if writers are discussing more than one problem, they often describe and explain each in a separate paragraph and normally describe a more serious problem after a less serious one.

The way a writer organizes the ideas in a text is referred to as the *rhetorical structure* of the text. Understanding this structure is important as it helps you follow the writer’s argument.

As you think about the rhetorical structure of a text, take note of the ways the writer uses *discourse markers* to organize ideas and demonstrate relationships between them. Again, we saw in *Module 3* that discourse markers can signal examples, a sequence, a cause and an effect, or a similarity or contrast. Discourse markers are signposts to the rhetorical structure of the text.

Activity 7.3

Now let’s look back at Reading passage 1 and consider four questions related to the rhetorical structure of that text:

- 1 Why do you think the writer uses the comparison with an air-conditioner in paragraph 2?
 - A She wants to stress the value of modern technology.
 - B She wants to emphasize the forest’s usefulness.
 - C She is concerned about the energy involved.
 - D She wants to show the area is not as hot as many think.

Hint: What is the overall aim of the passage?

- 2 The writer mentions England and Scotland in paragraph 4
 - A for patriotic reasons.
 - B because the British are leading exploiters of the Amazon.
 - C to stress the size of the area affected.
 - D to emphasize how large the region is.

Hint: What emotion does the writer want the reader to feel when faced with these figures?

3 The purpose of the final sentence in brackets in paragraph 5 is to

- A answer a possible objection.
- B show how dangerous El Niño is.
- C avoid alarming readers.
- D deny the strength of other models.

Hint: What is the writer's *purpose* in this sentence? What is the function of 'while'?

4 How strong is the writer's feeling at the end?

- A weak
- B neutral
- C strong
- D very strong

Hint: Look at the adjectives in this section of the passage.

In dealing with the four multiple-choice questions above, you considered several aspects of the rhetorical structure of Reading passage 1 – the overall aim of the passage, why the writer makes particular references in the text, what his or her purpose is, and the *feeling* or attitude he or she conveys.

Apart from multiple-choice questions such as those above, a range of reading question types in the Academic Reading test focus on the rhetorical structure of the text. These include:

- choosing titles for sections of the text or for individual paragraphs;
- identifying in which paragraph a certain piece of information can be found;
- stating whether a piece of information is true/false or not given;
- identifying an author's views from certain statements;
- matching statements and sources, items and types, objects and pictures, etc.;
- completing sentences with words from the passage;
- choosing sentence completions from a list; and
- completing a table from a list or from the passage.

The two activities which follow, related to the texts ‘How supermarkets make meaning’ and ‘DNA testing’, give you practice in attempting these question-types.

Activity 7.4

- 1 Read the text below and then choose the most suitable headings for paragraphs (iii)–(vi) from the list of headings provided. Write the appropriate letters in the boxes.

List of headings

- A One-stop shopping
- B Bargains and discounts
- C Setting the mood
- D What lies ahead
- E Avoiding temptation
- F First, get your customer
- G Dishonest practices
- H Layout is everything

Paragraph iii	
Paragraph iv	
Paragraph v	
Paragraph vi	

Reading passage 2

How supermarkets make money

- i For people in Western Europe and North America, regular visits to large supermarkets, possibly even hypermarkets, are a regular feature of life. In these developed societies, the supermarket has replaced small local shops as the main source of food purchases. The one-stop shopping experience which these huge supermarkets offer risks generating local animosity as it offers dramatic competition to smaller shops. It has the potential to wipe out the traditional shopping areas of small town centres. This has repercussions on the number of visitors to the town centre, results in lower town centre property values and reduces revenues from local property taxes.

- ii Although these mega-markets now often monopolize food shopping, profits on sales of everyday food items are generally small. So how do supermarkets make their money? Supermarket owners need to find ways to make their customers buy far more than the basic weekly groceries. The challenge for them is to utilize the drawing power of the supermarket to maximize customer spending. One way to achieve this is to include as many additional services as possible. European and North American supermarkets are often situated on the edges of towns where land is cheaper so they can be very large structures with plenty of parking space. In addition to the central food store that brings the customers in, there can be in-store outlets selling discount fuel, photo-shops, pharmacies, optical centres and gardening areas. Banking and financial services can be on offer. The store can sell electrical goods, toys, clothes, magazines, cut flowers, crockery, DVDs and many more items. Cafés can also help encourage people to make their visit a long one, almost a leisure time activity. Amusements are provided for children so that they will be eager to go to the supermarket and a visit there will be something to look forward to rather than a chore. Encouraging parents to bring their children shopping is also important as children usually ask for all sorts of extra items to be added to the shopping basket and will be eager to explore the toy counters.
- iii The science of supermarket selling is not restricted to mega-markets. Even smaller supermarkets need to extract as much value from customers as possible. First, customers must be drawn into the shop. Rarely will there be no local competition. For this the supermarket needs advertising and discounts to attract shoppers on the look-out for a bargain. There need to be attractive displays and special events. An Italian food week may not actually sell more than a few new items but it may be attractive to look at and gives customers an additional reason for choosing one shop over another. A varied and pleasurable experience will also encourage the customer to return. Colourful in-house magazines listing special offers can help and nowadays loyalty schemes are greatly in favour. Under these schemes, customers may receive a store card which grants them a discount for certain purchases, or they may accumulate points which can be redeemed for products. People really do like to feel they are getting something for nothing without really stopping to consider whether the store does not have a perfectly good reason for being so generous. Especially when someone has a lot of points and is close to achieving some bonus, they will be sure to do all their shopping in the one store and may even purchase extra items. In addition to this obvious commercial benefit, the store gets the name and address of the customer and by means of the latest technology can track their purchases and build up a databank of useful information.

- iv Having got the customer into the shop (and hopefully found ways of ensuring a repeat visit) the focus shifts to stimulating *impulse buys*. It is reckoned by industry experts that 60% of supermarket purchases fall into this category of things we buy without any prior plan. As you can imagine a great deal of research has gone into finding ways to make customers feel impulsive. Some are fairly crude, like warning customers to stock up for a public holiday or urging them to be more original and daring in their cookery, thus necessitating the purchase of exotic spices and sauces. Other methods are more subtle. As you enter a supermarket you may pass through a bakery area with an enticing aroma of freshly baked bread. Just beyond the bread and cakes you will usually find the fresh produce. Heaps of polished fruit with their own luscious perfume will greet your eye, and expanses of bright green vegetables intermingled with tomatoes, peppers, carrots and aubergines. Reminders of how healthy such natural products are will encourage you to slip some into your basket or trolley as you pass. All the soft music, careful lighting and array of colours and aromas should put you into a relaxed and appreciative mood for some real shopping. Music can have even more precise applications. It has been found that French music will, for example, induce people to buy more French wine.
- v As you stroll along the aisles, everything has been strategically placed. The goods the store wants you to buy, the goods that bring more profit, are placed at the average adult eye-level. Treats for children are lower down and you will have to really stoop for cheap items. Around the discount items, the 'loss leaders', which might have brought you in but bring little profit to the store itself, are arranged attractive and more expensive items. The expectation is that you will pay for your small gain on one thing by buying something nearby on impulse. Goods that complement each other are kept conveniently close. If you buy potato snacks, maybe you'll need a dip and surely then you will want a soft drink. Essential staple items you may be looking for will be hidden away to ensure you walk down as many aisles as possible, meeting as much temptation as possible. As you pass you may trigger voices that call on you to buy and lure you with special offers. Human psychology falls every time for multiple-unit pricing offers and buy-one-get-one-free strategies. As you approach the cashier, you may have to wait a moment, surrounded by nuts, chocolate and magazines. Many people will slip some in with the rest of their shopping.
- vi These stores have perfected the art of subtly persuading you to buy more than you need. Technology can help them to do this in even more subtle ways. A smart trolley, once you have identified yourself, will be able to draw on its knowledge of your past purchases to direct you to goods you might be

interested in and offers you will not be able to resist. It may even be able to contact your home and find out from your refrigerator what you are short of. The real challenge will be if online shopping takes over; then website developers will have to find ways as effective as those used at present to stimulate impulse shopping.

2 In which paragraphs does the writer discuss

- A the impact of supermarkets on town life?
- B appeals to our senses?
- C general marketing strategies?
- D the whereabouts of items such as bread, rice and cooking oil?
- E offers such as '\$4 each – five for \$16'?

Put the correct numbers in the boxes.

A	
B	
C	
D	
E	

3 Do the following statements reflect the opinions of the writer of the passage?

In the boxes write:

YES if the statement reflects the opinion of the writer.

NO if the statement contradicts the opinion of the writer.

NOT GIVEN if it is impossible to say what the writer thinks about this.

- A The main effort of supermarkets must be to get customers to come to them.
- B Most modern young children are badly behaved.
- C Shoppers who go out to fight depression tend to buy a lot.
- D Large supermarkets are socially undesirable.
- E Special events are useful even if not very profitable.
- F Most customers are naïve about special offers and promotions.

A	
B	
C	
D	
E	
F	

- 4 The writer gives examples of many different strategies used by supermarkets. Match the similar examples below with the aims of the various strategies. Write the appropriate numbers in the boxes.

Note: You may use any aim more than once or not at all.

- A German Cheese Week
- B Provision of a coffee shop
- C Christmas is coming reminders
- D Placing some goods on the lowest shelves
- E Putting biscuits near the tea
- F Offering cut-price petrol
- G Placing chewing gum near the cashier

- | |
|--|
| <ul style="list-style-type: none"> i to encourage extra unplanned shopping ii to attract customers to the shop iii to keep customers in the shop for longer iv to encourage customers to buy more expensive versions of products v to play on customers' health worries |
|--|

A	
B	
C	
D	
E	
F	
G	

- 5 Choose one to three words from the passage for each answer. Write your answers in the blanks:
- A A large supermarket can have a profound effect on a small town. Shops disappear from the _____ and as a result property values fall.
- B Loyalty schemes give stores access to the _____ of customers, allowing the creation of a databank.
- C Supermarkets encourage customers to use _____ and sauces in their cooking.
- D Music and lighting put people in the right _____ for shopping.
- 6 Choose one phrase from the list of phrases which best completes each of the following sentences, according to the information you have read in the passage. Write the appropriate numbers in the boxes.
- A Supermarkets encourage adults to bring their children with them when shopping ...
- B Supermarket magazines show new products and announce discounts ...
- C Music can ...
- D In the future trolleys may know of customers' likes and dislikes ...

- i as they believe in appealing to family values.
- ii inform us about where the staples are.
- iii make us buy items we associate with it.
- iv as they ask for many extra things.
- v as a way to help customers plan their meals.
- vi and use this information to give them guidance.
- vii so they can fill their cafes.
- viii help shoppers concentrate on their needs.
- ix as a way of attracting customers to visit the shop.
- x for up to 60% of purchases.

A	
B	
C	
D	

- 7 Complete the table based on paragraph (iii). Use one or two words for each answer.

Ways of bringing customers into the shop	
A	
B	
C	
D	special events
E	
F	

Timing

It is important that you can complete the passages in the time allocated. Try to answer the questions on the following passage in 20 minutes.

Activity 7.5

- 1 This reading passage has seven paragraphs (i)–(vii). Choose the most suitable headings for paragraphs (iii)–(vi) from the list of headings below. Write the appropriate letters in the boxes.

A	Protecting the innocent
B	Leave your cat at home
C	Tiny clues
D	Collecting samples
E	Unacceptable error
F	Some worries
G	Better late than never
H	Data delete

Paragraph iii	
Paragraph iv	
Paragraph v	
Paragraph vi	

Reading passage 3**DNA testing**

- i Sherlock Holmes was able to deduce a great deal from just a little evidence. In one story, given a man's hat he was able to work out his age, his relationship to his wife (how well did she take care of his hat and brush it for him?) and his recent economic history (downward: he had bought a good quality hat, but was wearing it after its best days were over). With DNA testing we will soon be in a situation where the police will from one cell of DNA be able to describe their suspect in detail: height, colouring, probable weight and so on. They can already discover ethnicity and hair colour, and progress is being made all the time in our knowledge and capacity in this field.
- ii The field is actually a fairly new one. It was only in the mid-1980s that Professor Alec Jeffreys, while working on another project, produced a DNA barcode pattern that was soon realised to be usable as a genetic fingerprint to identify organisms, notably people. The new technique was first used for a criminal investigation in 1987. The British police were desperate to find out who was responsible for the separate rapes and murders of two girls. A local youth confessed to the more recent crime but denied any responsibility for the first. Samples were taken to the professor who proved the young man was not (strangely enough) involved in either case, but that whoever was responsible had carried out both murders. As the area was not very heavily populated the police then asked all males in the neighbourhood to give DNA samples. None matched that from the murder victims. Suddenly a woman came and told the authorities she had heard a local man say he had given a sample on behalf of a friend. Detectives investigated and found the man who had attempted to avoid cooperation. Sure enough his sample matched perfectly and his arrest and conviction followed.
- iii Although criminals are becoming aware of this new forensic challenge to them and taking more care to remove cigarette butts, unwashed glasses or chewing gum from the crime scene, it is very difficult to avoid leaving some DNA as we are shedding cells all the time. Hairs fall out and skin flakes off. One murderer had kissed his victim shortly before killing her and his DNA was recovered from a trace of saliva on the woman's skin. In another, a man was proved to have been at his ex-wife's home, despite his denials, because a hair from his cat was found there.
- iv It is understandable that such a powerful investigative tool appeals greatly to the police. A DNA sample can, however, help where there are suspects and comparisons can be made,

but on its own is useless unless there is a large database available to seek matches from (as is the case with fingerprints). In Britain anyone who does anything serious enough to be logged at a police station (and this can be for fairly minor matters like disturbing the neighbourhood) is obliged to give a sample. These samples remain on record even if no further action is taken or if there is a trial and the person is found innocent. This means the UK police have access to about three million sets of DNA fingerprints and they find that they can obtain matches in 40% of cases they handle. There is talk of everyone's DNA being collected and recorded at birth. There is no doubt this would be a powerful weapon in the fight against crime and attractive to those whose responsibility it is to prevent terrorism. Some countries are, however, worried about the civil rights implications and are reluctant to go down the same path. The United States has a federal database but every state makes its own rules as to whose information is made available and there is strong pressure to erase records after a certain period of time.

- v Apart from the solving of crimes (and, of course, it can be used to establish innocence as well as guilt) DNA fingerprinting has many uses. It can be used to identify accident victims, to establish genetic relationships when these are contested and match organ donors with patients needing a transplant. Of less immediate use perhaps, it can be used to solve old crimes and even historical mysteries. One fascinating British case involved the brutal murder of three girls some 30 to 40 years ago. The police had kept the evidence and obtained DNA from stains on the girls' clothing. No exact matches were found on the database, but one very similar sample was noticed. It turned out that this belonged to the son of a suspect who had since died. Permission was obtained to exhume his body and obtain DNA. It matched exactly. The case could finally be closed. Turning to history, DNA testing showed that Louis XVII of France did indeed die in prison and that the Tsar and his family were shot by the Bolsheviks.
- vi Why then is there resistance to this new technology? One argument is that it might lead to false identifications. There is a tiny possibility a match will be chance (though a few DNA sequences are tested before any claims are made). It is reckoned that the highest risk would be about one in 34 million. It has, however, happened. A man in Britain was identified by the procedure as being responsible for a burglary. It turned out he lived far away and was in ill-health that would prevent his having done any such thing. Perhaps the point of the story though is that he was not accused of the crime. DNA evidence is not the only sort to be listened to and is certainly more reliable than visual identification by witnesses. Very worrying is the fact that as DNA is extracted

from smaller amounts of material the possibility of mistaken identification does seem to increase. After all, as we are all shedding DNA all the time our DNA gets onto other people. Police procedures also need to get ever more stringent to prevent any contamination of samples.

- vii Databases worry libertarians who are concerned about the information getting into the wrong hands. As various films have shown, a future where our genetic make-up controls our lives is not very attractive. We do not want prospective employers or insurers deciding that statistically we are too much of a risk for a job or a policy. History is indeed on the side of those who fear that if something can be abused it will be. It seems hard to imagine though that we can resist the impulse to solve crime so neatly. Forensic use of DNA testing is here to stay; but strong safeguards are needed to assure its proper use.

- 2 Do the following statements reflect the opinions of the writer of the passage? In the boxes write

YES if the statement reflects the opinion of the writer.

NO if the statement contradicts the opinion of the writer.

NOT GIVEN if it is impossible to say what the writer thinks about this.

- A It is threatening that DNA testing already allows us to determine someone's racial background.
- B Professor Jeffreys was distracted by less important projects from developing DNA fingerprinting.
- C The British police keep far too many people's DNA samples.
- D In Britain a new database of all citizens should be created.
- E DNA fingerprinting based on small amounts of material has an unacceptable risk of error.

A	
B	
C	
D	
E	

- 3 A number of cases are referred to in the passage as illustrating different points.

Choose from the list the point illustrated by each of the cases listed here. Write the correct numbers in the boxes. You may use a letter more than once or not at all.

Cases

- A two rapes and murders in the 1980s
- B a murder preceded by a kiss
- C an unsolved multiple murder from the 1960s
- D a burglary

Points illustrated	
i	the difficulty of not leaving DNA samples behind
ii	the slow development of DNA testing
iii	the need to avoid sole reliance on DNA testing
iv	the new light shed on old puzzles by DNA testing
v	the prevention of crime
vi	the history of DNA testing
vii	great wrongs caused by the misuse of DNA testing

A	
B	
C	
D	

- 4 Which of these most accurately reflects the view of the writer about DNA fingerprinting?
- A It would have been better if we had never discovered it.
 - B It has its uses but they have been exaggerated.
 - C It will have both a very negative and very positive impact.
 - D It is a wonderful development that we should embrace warmly.

Questions that focus on meaning

Having looked at vocabulary questions that focus on determining the meaning of individual words and rhetorical structure questions which look at the flow and structure of the writer's ideas, we now turn to questions that test your understanding of the *main ideas* and *broad meaning* of a text. Understanding the main ideas entails recognizing how secondary information and examples are used to support them. In addition, the writer's attitude will determine the focus he or she adopts in the main ideas. These aspects of a text are all tested in questions focusing on meaning.

As with the earlier texts, skim the reading passage first and spend some time familiarizing yourself with the text and getting some idea of what it is about and the stance it takes. Then look at what information each question is asking you to locate or check.

Reading passage 4

Mangroves and shrimp farming

- 1 As far as environmental protection is concerned, it seems at times that there are two conflicting international agendas, one positive and another negative. The positive agenda, officialized in international forums such as the 1992 Earth Summit and its related conventions and processes, is aimed at the sustainable use of resources for the benefit of present and future generations. But there is another international agenda, aimed at increasing production, trade and consumption of all types of products, regardless of their sustainability, for the benefit of private business and governments. An example of local people trying desperately to implement a positive agenda, while governments, corporations and international financial institutions support the latter can be found in the case of industrial-scale shrimp farming.
- 2 Large-scale intensive shrimp farming is often conducted in ponds created from the destruction of mangroves. The importance of the environmental services provided by mangroves is undisputed and so is the need to ensure their conservation and rehabilitation. At the same time, they constitute a vital economic resource for local people, whose livelihoods are directly dependent on this ecosystem. It would thus seem obvious that governments and international agencies that have committed themselves to environmental protection and to poverty alleviation should ensure the conservation of mangroves. Unfortunately, this is seldom the case.
- 3 On the contrary, the governments of many tropical countries provide strong support for the development of shrimp farming on an industrial scale as a means of increasing exports and

obtaining much needed hard currency. This necessity is linked to pressures from international creditors and institutions such as the International Monetary Fund and the World Bank that promote export-oriented economies to ensure payment of external debt servicing. As a result, increasing areas of mangroves are destroyed and local people become either poor or poorer. While the macroeconomy grows and corporations increase their profits, the local economies are negatively impacted or destroyed.

- 4 The destruction of mangrove forests implies the loss of unique species. Mangroves link the tropical forests with the coral reefs, providing a critical transition between terrestrial and marine ecosystems. They also protect shorelines from erosion, capture sediments – thus protecting coral reefs – and are the spawning grounds for the majority of tropical commercial fish. They also protect coastal lowland rainforests from tropical storms. They are critical to local biodiversity, harbouring plants and animals totally unique to mangrove ecosystems. They are also used for recreation and tourism. They are extremely biologically productive and for local communities mangroves are an important source of fuel, medicines, food, fodder, etc.
- 5 Apart from the fact that vast areas of mangroves are cut, another consequence of aquaculture projects such as the industrial-scale farming of shrimp is that there is a vast volume of waste produced inside the ponds. Feed eaten by shrimps, but not retained in their body ends up as waste. As the waste piles up, bacteria flourish and consume the available oxygen. This can suffocate the shrimps and reduce their growth. Intermediate waste products – both of shrimp and microbes – such as ammonia and nitrite, are toxic to shrimp, fish and other animals. Shrimp weakened by waste and lack of oxygen is more susceptible to disease. In order to avoid this problem, the water from inside the ponds is regularly removed and the ponds filled with clean water. This system results in the pollution of the neighbouring surface waters.
- 6 This activity also provokes the salinization of coastal aquifers and agricultural lands. When the ponds are abandoned due to disease or other causes, the area is often left as a wasteland and the soils contain high levels of salinity, acidity and toxic chemicals, which make other uses practically impossible.
- 7 Another consequence of industrial shrimp farming is the use of antibiotics, pesticides, fungicides, parasiticides, and algicides. In many of the producer countries, there are no regulations limiting the amount of chemicals used. To guard against diseases, farmers use large amounts of antibiotics during production, as well as toxic chemicals between

harvests to sterilize the ponds. The result is that human consumers of tropical shrimps produced in this way are eating food containing high levels of antibiotics. Many of these substances are prohibited in developed countries due to their carcinogenic effects. Some of the antibiotics used in shrimp farming are the same as those used in human medicines. This runs the risk of decreasing the effectiveness of antibiotics in fighting disease.

- 8 In the quest for profits, the idea of using genetically modified shrimps is already being taken on board and Thailand – the world's leading producer – has started research in this area. The idea is to develop a super-shrimp. If this were to succeed, consumers – apart from eating antibiotics, pesticides and other chemicals – would be also eating GM shrimps.
- 9 Among the social and economic impacts of industrial shrimp farming, the destruction of the mangroves is of prime importance. Mangroves constitute an ecosystem vital for local communities, which of course do not share the profits gained from their destruction. Aquaculture is said to be a viable response to the problem of food resources especially in the poor countries. This is clearly not true in the case of shrimp farming. It is also said that it is a source of much needed foreign exchange, enabling shrimp-producing countries to import lower cost protein thus ensuring food security. This argument presents two problems. Firstly, there is no evidence that the foreign exchange earned by shrimp farmers will be used to purchase cheap imported protein. The foreign exchange is earned not by the poor but by the rich shrimp-farm owners who decide on how to spend it. Secondly, dependence on imported food reduces food security in times of currency instability.
- 10 Due to its industrial nature, shrimp aquaculture employs fewer people than agriculture or traditional fishing activities. It thus contributes to underemployment.
- 11 In many cases, shrimp farming has resulted in serious human rights violations, including murder, physical injuries, eviction of villagers, detention of workers in shrimp farms, violation of shrimp-farm workers' rights, and confiscation of land, forest and water resources.
- 12 Displacement of local communities is common in shrimp-exporting countries, where politically connected investors turn highly productive complex ecosystems into a single use private domain. The many poor people who depend on mangrove and coastal fisheries for their livelihoods are eventually displaced. Conflict over land tenure rights are at the core of the conflicts related to shrimp farming.

- 13 Shrimp farming is a profitable business for a small group of people, and it is profitable because liberalized trade does not take into account the so called 'externalities'. This means that those who make the profits do not pay for the destruction of the ecosystem, while tremendous costs are being unwillingly absorbed by local communities at whose expense the industry makes its profits.
- 14 In sum, industrial shrimp farming is not only not a solution, but aggravates socioeconomic disparities within the framework of environmental destruction.

Source: Adapted from <http://www.wrm.org.uy/bulletin/51/viewpoint.html> and <http://www.wrm.org.uy/bulletin/51/impacts.html>.

Now answer the questions in Activity 7.6. Rather than give you hints for each question, we suggest the sort of reading strategy you should use to best answer the question.

Activity 7.6

Questions 1–5 and 8–9 ask you to *read for a paragraph's main idea*. Question 6 asks you to *scan for supporting information and examples*; and Questions 7 and 10 ask you to think about the *writer's attitude*.

- 1 Which of these titles would best fit paragraph 1?
- A A prosperous future
 - B A sharp contradiction
 - C Shrimp and the world
 - D Contrary agencies
- 2 Which of the following is the best paraphrase of paragraph 2?
- A Mangroves should be carefully preserved and not economically exploited.
 - B The logical thing to do is look after the mangroves carefully so people can earn a living from them.
 - C Mangroves cannot help lift people out of poverty.
 - D If kept beautiful, mangroves can attract tourism and help people better themselves.

- 3 Paragraph 3 implies that
- A shrimp farming is highly profitable.
 - B shrimp farming leads people into debt.
 - C shrimp are not a suitable diet for the poor.
 - D the IMF opposes the policy of many tropical countries.
- 4 Circle the statements that agree with what the writer says in paragraph 5.
- A Shrimps are wasteful.
 - B Shrimp farming causes dirty water.
 - C When the oxygen supply is low the shrimp grow slowly.
 - D Ammonia and nitrite are microbes.
 - E Shrimp ponds need to have fresh water frequently.
 - F Dirty water is often disposed off carelessly.
- 5 How do chemicals toxic to humans get into the ponds (paragraph 7)?
- A The ecosystem is damaged.
 - B The farmers put them there.
 - C They are the product of pests.
 - D Rival businessmen add them.
- 6 Which sentence in paragraph 7 alerts us to the dangers to common medicines?
- A To guard ...
 - B Many of ...
 - C This runs the risk of ...
 - D In many of the producer ...
- 7 Which of these statements accords with the content of paragraph 8?
- A Thailand exports GM shrimp.
 - B Super-shrimp will replace GM shrimp.
 - C Thailand wants to become the world's main producer of shrimp.
 - D Thailand may produce super-shrimp.
- 8 The logic of the writer in paragraph 9 implies that
- A exporting is not good for a country.
 - B importing food is too expensive.
 - C countries should be self-sufficient in food production.
 - D foreign exchange earnings can push up prices over the long term.

9 Which of these complaints matches what is described in paragraph 12?

- A We were paid very low wages.
- B We were driven from our land.
- C The wildlife was all killed.
- D The land was dug up and damaged.

10 The writer of this passage could best be described as a/an

- A economist.
 - B businessperson.
 - C activist.
 - D politician.
-

Questions that focus on key words

In answering reading questions, it often helps to think in terms of *key words*. For many types of question there are words in the question that correspond to words in the text. The secret to answering these correctly is to look at the question carefully and then scan the text for something that might correspond. Having located the key words, one can look more closely to ensure selection of the correct option.

Let's now practise this skill in responding to questions on a text on Canadian salmon fishing (Reading passage 5). Look at the following question:

According to the passage, wild salmon in British Columbia

- A have almost disappeared.
- B are over-breeding.
- C have serious problems.
- D need to be in balance with other wild fish.

In selecting the correct option for this question, what you would naturally do is search the passage for the relevant section, the one which discusses 'wild salmon in British Columbia'. Although wild salmon are discussed in several paragraphs, since this is the first question in the test, it is safe to assume that the earlier paragraphs hold the clue to the answer. Indeed, the first paragraph says several things about wild salmon. They are:

- important to British Columbia's environment, culture and economy; and
- already severely stressed.

The key words in this case are 'severely stressed' since they match options (A) 'have almost disappeared' and (C) 'have serious problems'. Since the text does not claim that wild salmon have almost disappeared, option (C) is the better answer. Over-breeding – option (B) – is not an issue for salmon and neither is the need to be in balance with other wild fish, as in option (D).

Let's look at another example:

Salmon farmers and salmon fishermen

- A are in competition with one another.
- B must be polite to each other.
- C are natural partners.
- D have no connection with one another.

Here the relevant section of the text, which discusses salmon farmers and salmon fishermen, is in the second paragraph. There you can find the sentence: 'Rather than being in any sense at odds with each other, the salmon-farming and the commercial fishing industries are complementary in various economic and social respects'. The key words in this case are 'at odds' and 'complementary' (acting together well, fitting together). Matching these against the four options for this question makes (C) a clear choice. Taking a global view of the passage, it aims to defend salmon farming from a number of criticisms and smooth over disagreements, so we can expect 'natural partners' to be the answer.

Now tackle the other questions on Reading passage 5. Key words to locate in the text are provided as hints under each question.

Reading passage 5

The British Columbian salmon industry

A

Wild salmon are an important part of British Columbia's environment, culture and economy. It is important that salmon farming should not in any way further compromise what are in many cases already severely stressed stocks of wild fish.

Salmon farms pose a low risk to the well-being of wild salmon, and both farmed and wild fish depend on a healthy ecosystem. Rather than being in any sense at odds with each other, the salmon-farming and the commercial fishing industries are complementary in various economic and social respects.

B

Both industries depend on similar services, supplies, processing, transportation, and marine infrastructure. Many individuals have either made the transition from one industry to the other or now work in both. Salmon farms have provided an important degree of diversification and year-round stabilization to the economies of rural coastal communities, particularly at a time when there have been declines in employment in commercial fishing and other traditional economic mainstays.

Wild Pacific salmon stocks have seen significant declines over the last several decades and particularly since the early 1990s. A recent scientific paper reviewed the causes of these declines and concluded that the declines were primarily caused by a combination of climate change, overfishing, freshwater-habitat destruction, and the genetic and ecological impacts of large-scale salmon enhancement projects. The paper concluded that all available evidence suggests salmon farming has not had a significant impact and in fact poses a low degree risk to wild salmon in BC (Noakes et al. 2000).

When salmon escape they do not appear to compete very well in the wild, or even to have a very high survival rate. Of the low proportion of escaped fish that survive to be caught or found in BC, over 94% have empty stomachs (McKinnel et al. 1997), indicating that their competition with wild salmon for food is insignificant. Very few farmed salmon have been found in river systems, and farmed fish have been shown to have a significant competitive and reproductive disadvantage compared to wild salmon (Fleming et al. 1996). Competition for spawning locations between wild and farmed salmon is therefore negligible (Alverson and Ruggerone 1997).

Salmon farmers expend a great deal of effort to ensure they have healthy fish stocks (see 'Farmed Salmon Health'). Farmers screen all their broodstock for disease, provide good water quality and nutritious feeds, and vaccinate the juvenile fish to stimulate their natural immune systems before they are brought to the ocean. Imported eggs undergo strict quarantine and multiple, redundant levels of protection and testing to ensure no exotic diseases are ever brought into BC. Farmed fish are therefore generally healthy and have a much higher survival rate than wild stocks. The only diseases that have been recorded on BC salmon farms are diseases that naturally occur in native BC fish populations (Kent and Poppe 1998; Stephen and Iwama 1997).

C

Sea lice are small parasites that attach themselves to the outside of marine fish, and survive by consuming small amounts of slime or skin. They are very common on several species of wild fish in the BC waters, and most wild salmon are host to small numbers of sea lice. There is no evidence that sea lice have been spread from farmed fish to wild fish in British Columbia, or that the presence of farms has increased sea lice levels or contributed to outbreaks. Salmon farmers use management techniques that help minimize the presence of sea lice within their stocks. This includes fallowing (leaving a farm site to sit empty for a period of time), combined with the practice of growing only one age class on a farm. This ensures sea lice are not spread from older fish to younger fish, which effectively breaks their host/parasite cycle. If sea lice do show up on a farm in significant numbers, veterinarians may choose to treat fish in order to remove the lice.

In 2001, there were some reports of large numbers of sea lice on pink salmon smolts off northern Vancouver Island. The federal Department of Fisheries and Oceans conducted a scientific assessment in the area – which involved capturing more than 1000 salmon smolts – and they found the fish to generally be in very good condition with little scale loss, few lesions and low numbers of sea lice. Only 1% of the fish were found to have large numbers of lice (DFO 2001). Veterinarians did not report elevated numbers of sea lice on salmon farms in the area at the time.

D

All farm animals consume more food than the meat that we obtain from them. For example, cows require about 6 pounds of grain and chickens about 2 pounds of feed for every pound of meat that is produced. Salmon are in fact very efficient converters of food into edible flesh, and Atlantic salmon in BC consume only 1.1 pounds of feed for every pound they grow. Fishmeal is a large component of salmon feed, and the species used to make it are typically small or bony fish, with a low proportion of edible flesh and for which there are few alternative uses. Globally, salmon farms use about a third of all the fishmeal, and the rest is used in poultry and other animal feeds. Much of the fish meal that ends up as farmed salmon food comes from Chile and Peru, where government controls on the fishing industry are designed to ensure sustainability.

Salmon farming has undoubtedly changed salmon markets in the world. Prior to the advent of farming, salmon were only available fresh for a few months during the fishing season, and prices swung wildly from year-to-year based on the changing returns of salmon. Fresh farmed salmon is now available every day of the year, and salmon has gone from a luxury product to a food commodity almost as readily available as chicken, beef and pork.

E

Overall, salmon prices are now more stable and somewhat lower than before farmed salmon became widely available. Demand, however, is also much higher than it used to be. The consumption of fresh and frozen salmon in the US nearly quadrupled from 1990 to 1999, mostly due to increased farmed salmon consumption (Knapp 2000). Since BC farmed salmon account for less than 5% of total world salmon production, operations in this province are price-takers and do not have an impact on world salmon prices.

Source: <http://www.salmonfarmers.org/industry/wild.html>.

Activity 7.7

- 1 The paragraph beginning 'Wild Pacific salmon stocks ...' argues against the view that
 - A climate change is the main factor in salmon numbers.
 - B large-scale enhancement programmes have failed.
 - C salmon farming has an adverse effect on wild salmon.
 - D salmon farming can save the fishing industry.

Key words: 'poses a low degree risk to wild salmon' (a final topic sentence)

2 Salmon that escape from farms

- A are usually killed.
- B cannot find food.
- C enter rivers not the sea.
- D attack wild salmon.

Key words: 'have empty stomachs'

3 Reproductive rivalry between wild and farmed salmon is

- A slight.
- B great.
- C not fully understood.
- D decreasing.

Key words: 'competition ... is ... negligible'

4 Which of these methods of ensuring healthy fish stocks is mentioned in the passage?

- A Imported fish eggs are banned.
- B Water quality is measured daily and bacteria removed.
- C Wild salmon are screened from the farming sites.
- D Young farmed salmon receive help in fighting infection.

Key words: 'vaccinate the juvenile fish'

5 Which of these is a complaint you might hear, according to the passage?

- A Sea lice are slimy.
- B Farmed salmon infect wild salmon with sea lice.
- C Wild salmon infect farmed salmon with sea lice.
- D Sea lice make the salmon industry unprofitable.

Key words: 'no evidence ... have spread from farmed fish to wild fish'

6 In farms, lice do not spread from older to younger fish because

- A they are kept separate.
- B veterinarians treat the fish.
- C this is not the normal route.
- D the younger fish are already infected.

Key words: 'practice of growing only one age group on a farm'

7 According to the passage, in 2001

- A there was an outbreak of sea lice which spread to wild salmon from farmed salmon.
- B an outbreak of sea lice occurred but was not connected to farmed salmon.
- C there was a report of an outbreak of sea lice but it was discovered to be false.
- D the authorities acted quickly and stopped sea lice spreading.

Key words: 'were some reports', 'only 1% ... did not report elevated numbers'

8 It seems that salmon

- A can use most of their food in growth.
- B grow very quickly.
- C do not eat very much.
- D prefer small bony fish for their diet.

Key words: 'very efficient converters of food into edible flesh'

9 The fish used for salmon feed are

- A protected in South America.
- B hard to process into fishmeal.
- C not suitable for human consumption.
- D only a small proportion of their diet.

Key words: 'with a low proportion of edible flesh'

10 Circle the improvements mentioned in the passage since the introduction of salmon farming:

- A quality
- B taste
- C supply
- D freshness
- E cost
- F interest

Key words: 'since the advent ... now available every day', 'from luxury product to a food commodity almost as readily available ...'

11 According to the final paragraph, the British Columbia salmon farmers

- A make good profits.
- B help set the price of salmon.
- C are helping to keep prices reasonable.
- D have to accept the market price.

Key words: 'price-takers ... do not have an impact'

12 Reading passage 5 has five sections: A–E. Choose the correct headings for the five sections from the list below and write your answers in the boxes provided.

	Headings	Key words
1	Just a natural hazard	'parasites ... marine fish', 'very common', 'no evidence'
2	A less wasteful source of protein	'every pound of meat that is produced'
3	Economics	'prices', 'demand'
4	Salmon – farmed and wild	'both farmed and wild fish'
5	Working together	'both', 'work in both', 'degree of diversification'

Section	Heading number
A	
B	
C	
D	
E	

We conclude this module with another timed activity to enable you to experience examination conditions while you tackle a range of reading question types.

Activity 7.8

Read the passage and answer the questions that follow. Allow yourself 20 minutes for this purpose. Fill in your answers on the answer sheet at the end.

Reading passage 6

The fight against a terrible scourge

- i Malaria is caused by the mono-cellular parasite, Plasmodium. There are many different versions that have rather different effects; the worst from the human point of view is the *Plasmodium falciparum* which kills hundreds of thousands of African children annually. The *Plasmodium* parasite enters the saliva of the female anopheles mosquito. When the mosquito takes blood from a human victim the parasite enters the human bloodstream and proceeds to the liver. After changes there it starts infecting red blood cells and multiplying. Eventually when another mosquito takes blood from the same person, the new versions of the plasmodium will enter the insect's stomach, undergo further stages in its life-cycle and then pass into the mosquito's saliva ready for a repeat of the process.
- ii Fortunately for the mosquito, the parasite does not do anything that disturbs its life, but humans are not so lucky. The disruption caused to the red blood cells of the mosquito's victim leads to severe illness, including typically fever, shivering, sweating, headaches and severe muscular pains. Malaria may prove fatal, or may recur intermittently throughout an infected person's life. Malaria has had a profound impact on human history, killing millions and causing depopulation in areas over which it has established its grip. Central Italy was, for example, badly affected. The word 'malaria' comes from the Italian for 'bad air' as the disease was associated with swampy areas where mosquitoes breed freely. Probably many popes fell victim to it. Large areas of Southeast Asia were sparsely populated as the river valleys and flood plains were so dangerous to health. The Chinese discovered at an early date the anti-malarial properties of the plant *Artemesia annua*, and Europeans had some relief when the Spanish brought Peruvian bark from the New World, naming it Cinchona in honour of a countess whose life it saved. This in turn gave rise to the English word 'quinine'. Quinine water was recommended drinking for the British in the tropical colonies and led to their fondness for a gin and tonic.
- iii It was only at the end of the nineteenth century that breakthroughs were made in the study of malaria. A number of Nobel Prizes went to researchers in this area. Charles

Laveran was awarded one for noting the presence of parasites in the blood of malaria patients; Camillo Golgi further noted the different types of parasite; and Ronald Ross received his for finally discovering that the parasite came from mosquitoes. At last, the disease vector for malaria was known, giving at least some hope of controlling it by means of attacks on the insect. One of the first great drives to wipe out the mosquito's breeding grounds was carried out during the construction of the Panama Canal as the prevalence of the disease almost, for a time, made completion impossible.

- iv Eradication schemes seemed realistic with the discovery of DDT, a powerful new insecticide. The United States made a huge effort and by massive spraying campaigns and careful handling of troops coming home from the war the disease was eliminated from the country by the early 1950s. Unfortunately, as so often happens, the success was not so easily copied by other countries, especially as concerns about DDT's effect on wildlife spread, and the emergence of resistance to it among some strains of mosquitoes was reported. Control of mosquitoes is still an important part of the fight against malaria and simple measures like the use of nets soaked in insecticide around beds can save many lives. The elimination of any unnecessary areas of stagnant water is also highly desirable. Work is also being done on ways to produce sterile mosquitoes that will swamp the normal population and bring about an end to the anopheles mosquito.
- v Another strand in the attack on malaria is, of course, the development of treatments for it. The miracle drug of the post-war period was chloroquine. Cheap and effective, it held malaria at bay for a few decades, but, as we are now realizing, nature soon catches up and our wonder drug is now losing its efficacy. In Thailand chloroquine resistance is found in 85% of *Plasmodium falciparum* cases. Its replacements, sulphadoxine-pyrimethamine, mefloquine and halofantrine are now following the same path. The picture varies from area to area [Table I], but the overall message is clear: the parasite is winning. Quinine still has some efficacy though it has to be used with care and is not suitable in many cases. Artemisin, derived from the Chinese plant, does destroy the parasite in the blood by preventing it from maintaining the needed level of calcium, and it has helped many. There have, however, been complications in creating a readily acceptable medicine from it and relapse rates are high among patients treated with it. In fact, as a monotherapy it has its limitations, but in Thailand in combination with mefloquine it has achieved pleasing success rates. Its success and widespread use will probably bring about its downfall. Researchers have noted with alarm that it would only take a very small mutation in the parasite to render artemisin ineffective. More hopeful news is of the discovery of the

protein which is enabling *Plasmodium* to resist some of the earlier drugs. With this information it may be possible to tweak them back into effectiveness.

- vi Clearly the fight against malaria is far from over. Political instability and war create ideal conditions for disease. This is part of the tragedy of Africa. Programmes which might have been working have been disrupted by the breakdown in law and order. Even cheap treatments and anti-malarial measures quickly become too expensive for those impoverished by war. When refugees flee into a malarial area they are often signing their own death warrants. Those who live there are bitten at least a thousand times a year and gradually build up some sort of tolerance, if not immunity, to the parasite, but newcomers are helpless to deal with it. Any increase in the number of infected people has a knock-on effect as the likelihood of any mosquito having previously visited an infected person increases. Malaria regains its old hold on the land. Poverty eradication, prevention and cure are all going to be needed in the fight against our ancient enemy.

Table I

Patterns of drug resistance

Chloroquine – widespread. Areas where the drug can still be used are North Africa, the Middle East and Central America.

Sulphadoxine-pyrimethamine – resistance observed in Southeast Asia, India, Amazonia, sub-Saharan Africa and Oceania.

Mefloquine – resistance present in Thailand, parts of Africa and South America, the Middle East and Oceania

Quinine – resistance observed in Southeast Asia, Amazonia, parts of Africa and Oceania.

Halofantrine – no longer effective in Thailand; resistance beginning to spread.

- 1 Find from one to three words from the passage to complete these sentences:
 - A The reason humans fall ill when infected with *Plasmodium* is that the parasite attacks the _____.
 - B The word ‘malaria’ derives from a term meaning _____.
 - C Quinine originally comes from _____.

- 2 Select endings for these sentences from the box which reflect what you have read in the passage:

- A The building of the Panama Canal was adversely affected by _____.
- B By using DDT the United States was able to become _____.
- C Mosquito-nets treated with insecticide are _____.

- | |
|--|
| i a mosquito-free zone.
ii a disease vector for malaria.
iii a great drive against mosquitoes and malaria.
iv a very useful first step in the fight to prevent infection.
v prevalent throughout Central America.
vi the elimination of pools of stagnant water.
vii a part of a plan to eliminate mosquitoes by preventing them from breeding.
viii the numbers of mosquitoes in the area. |
|--|

- 3 Complete the table

Artemisin
First derived from <i>Artemisia annua</i>
Works by disrupting the amount of (A) _____ in the parasite
Found to be effective when used together with (B) _____

- 4 Choose the most suitable heading for paragraph (vi):
- A Best advice: stay home
- B Multi-pronged approach needed
- C No hope for Africa
- D Malaria will lose
- 5 The best drug for use in Southeast Asia (excluding Thailand) is
- A chloroquine.
- B mefloquine.
- C sulphadoxine-pyrimethamine.
- 6 Chloroquine should not be used in
- A Oceania.
- B Saudi Arabia.
- C Panama.

- 7 Do the following statements reflect the opinions of the writer of the passage? In the boxes write

YES if the statement reflects the opinion of the writer.

NO if the statement contradicts the opinion of the writer.

NOT GIVEN if it is impossible to say what the writer thinks about this.

- A The *Plasmodium falciparum* will be the hardest of the *Plasmodium* parasites to defeat.
- B The parasite shortens the life of its host mosquito.
- C DDT does not kill all mosquitoes.
- D Sterile mosquitoes are a new threat to human health.
- E Chloroquine is no longer available in Thailand.
- F Mefloquine is an expensive alternative to chloroquine.
- G People who take artemisin are liable to fall ill a second time.
- H Resistance to artemisin is now on the rise.
- I Refugees carry malaria from place to place.
- J New drugs will not be enough to stop malaria.
- K We should try to learn to live with the parasite.

A	
B	
C	
D	
E	
F	
G	
H	
I	
J	
K	

Conclusion

In this second reading module, we have given you extensive practice on the sorts of items which appear in the IELTS test.

We first looked at strategies for handling reading questions and then provided questions that required you to apply reading skills and strategies related to comprehending unfamiliar vocabulary, a text's general meaning and its rhetorical structure. We also looked at how you can use key words in a question to guide your comprehension.

In the module, we covered the range of types of questions you will meet in the IELTS Academic Reading test. The texts you worked on involved test skills such as choosing headings, identifying where particular information can be found in a text, assessing the truth of certain statements, matching exercises, sentence completion and completing tables.

We hope that, by working on the texts provided, you now feel confident about tackling the Reading part of the IELTS test.