

READING SKILLS

Labelling a diagram (1)
Completing tables
Completing flow charts

EXAM PRACTICE

Labelling a diagram
Completing multiple-choice questions
Completing sentences (matching endings)

Labelling a diagram (1)

1 Describe how each energy source in the photos has had an impact on human history.

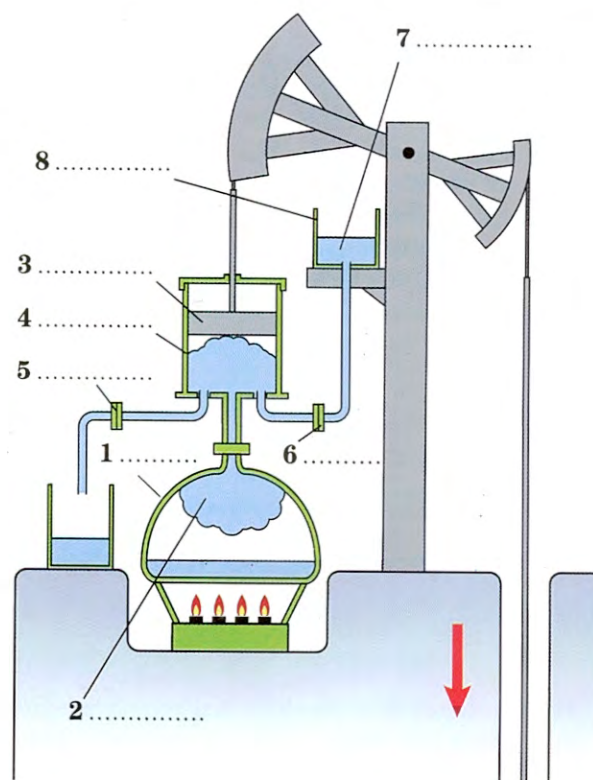
2 Answer the questions a–c below.

- What other energy sources can you think of? How has each one had an impact on human history?
- Which sources do you think have a future?
- What types of energy have you used so far today?

3 Look at the diagram and answer questions a and b.

- What does the diagram show?
- What types of words are needed to label the diagram? Make some predictions.

4 Label the diagram using no more than TWO words from the passage below for each blank space.



Thomas Newcomen's steam engine was one of the first devices to use the power of steam for mechanical work. It was originally used to pump water from mines. A boiler, encased in brick and sitting over a coal fire, generated steam, which drove the piston in the open top cylinder above the boiler. When the steam built up, the pressure opened a valve allowing the steam to fill the cylinder and push the piston up. When the piston reached the top of the cylinder, the first valve was closed and the second valve opened. This second valve sprayed cold water into the cylinder from a cistern, condensing the steam and creating a vacuum. The air pressure from the open-top cylinder pushed the piston down again, thus pulling the rod down with it. The cycle then repeated itself all over again.



5 Look again at the text in exercise 4. In which order does the text refer to the following?

the source of power ■ the use of the engine ■ the effect of the power and following actions

6 Find and underline the following in the text.

- a an infinitive to express purpose
- b a relative clause to introduce the next action
- c a word used at the beginning of a sentence to link two actions
- d a gerund clause to refer to the effect of the previous action
- e a word meaning 'in this way' followed by a gerund.

7 Decide if the following sentences about machines are true or false. Use a dictionary to help you.

- a A washing machine contains a pump and a motor.
- b An air conditioning unit contains a coil and a fan.
- c A photocopier has various components, including rollers and a piston.
- d A filter and a tube can be found in a television.
- e A lever and a spring are component parts of a toaster.
- f A valve and a switch can be found in an aerosol spray.
- g Inside a vacuum cleaner, there is a filter and rotating brushes.

Technique

Keep a record of the various components of machines and devices and update your list regularly. Also record the purpose of the machine or device.

8 Match these verbs to the machines in exercise 6: *spray, wash, blow, vacuum, rotate, clean, cool, copy, show, toast*. Then describe the purpose of each machine using the verbs: it is used to ...

9 Name one device or machine for each of the following components. Decide what the purpose of the component is in each case.

battery ■ axle ■ blade ■ handle ■ lens ■ turbine ■ switch

10 Think of a device or machine, e.g. a wind turbine, a mobile phone or a tablet, and describe briefly how it works and what the purpose of the various components is.

Completing tables

1 Before you look at the passage below, decide which of the following words are associated with advantage and which with disadvantage.

downside ■ benefit ■ drawback ■ stumbling block ■ problem ■ upside ■ plus ■ handicap

The future of energy sources

- A The future for petroleum use at the moment looks rather uncertain, despite enjoying the major benefit of a very advanced infrastructure already in place. The downsides from the environmental point of view are patently obvious: harm to public health through carbon dioxide emissions in exhaust fumes.
- B The picture for natural gas is similarly mixed. While its main strength lies in it's being a relatively clean fuel involving little processing and being easily transportable via pipelines, natural gas requires compression or low temperatures if it is to be used for cars or other vehicles.
- C Yet there is another problem with natural gas. It may produce less carbon dioxide than other fossil fuels, but the major stumbling block to its use is that the methane released lives for a long time in the

atmosphere. In addition, as it is a non-renewable energy source like petroleum, in coming years natural gas will not be in use. But in the short term at least, the situation looks rosy.

- D Ethanol, despite the drawback of a dearth of commercial outlets, heralds a new dawn for the energy market. But, before we consider ethanol in depth, let us look at hydrogen. It is perhaps the most attractive of all renewable fuels. Its greatest appeal is that it is readily available everywhere in the form of water (H²O). Solar energy is used to split the water into hydrogen and oxygen and then recombine it, with water being the waste by-product. Perhaps its main drawback is making the hydrogen production units small enough to fit cars. But once this happens, the future of hydrogen is bright indeed.

Unit 3

- 2 Scan the passage for the words in exercise 1, or other words with similar meanings, and underline them.
- 3 Study the table about the reading passage in exercise 1 and decide what kind of words are needed for each blank space.

Technique

Look at the headings at the top and side of tables. The headings can give you the topic of the passage (*Types of fuel*) and help you with the organization (*advantage, etc.*). In the IELTS exam the answers in the table may not be in the same order as in the reading passage.

Type of fuel	Main advantage	Main disadvantage	Future
Petroleum	Very advanced infrastructure	1 _____	Uncertain
Natural Gas	Relatively clean	Produces 2 _____	3 _____
Ethanol		Lack of 4 _____	Signals a 5 _____
Hydrogen	6 _____	Hydrogen production units for cars not small enough	7 _____

- 4 Complete the table. Use no more than TWO words from the reading passage in exercise 1.
- 5 Look at the table below and insert four headings from the list in spaces 1–4.

Method ■ Types of power ■ Types of organization ■ Types of environmental risks
Location ■ Homes supplied ■ Environmental impact

1 _____	2 _____	3 _____	4 _____
south coast	wave	high	sufficient for 26,000
mouth of river	tidal	low	sufficient for 15,000
at sea	wind	low	sufficient for 31,000

- 6 What other words do you know for the nouns *method*, *types*, and *impact*?
- 7 In your own words, briefly describe the information relating to the table in exercise 5 above.

Completing flow charts

- 1 Flow chart tasks normally relate to processes or sequences. Match each linking device below with a stage from the flow chart in exercise 2 opposite. Which can relate to any stage? Which cannot relate to any stage? The first one has been done for you.

firstly stage one

thirdly _____

after that _____

subsequently _____

simultaneously _____

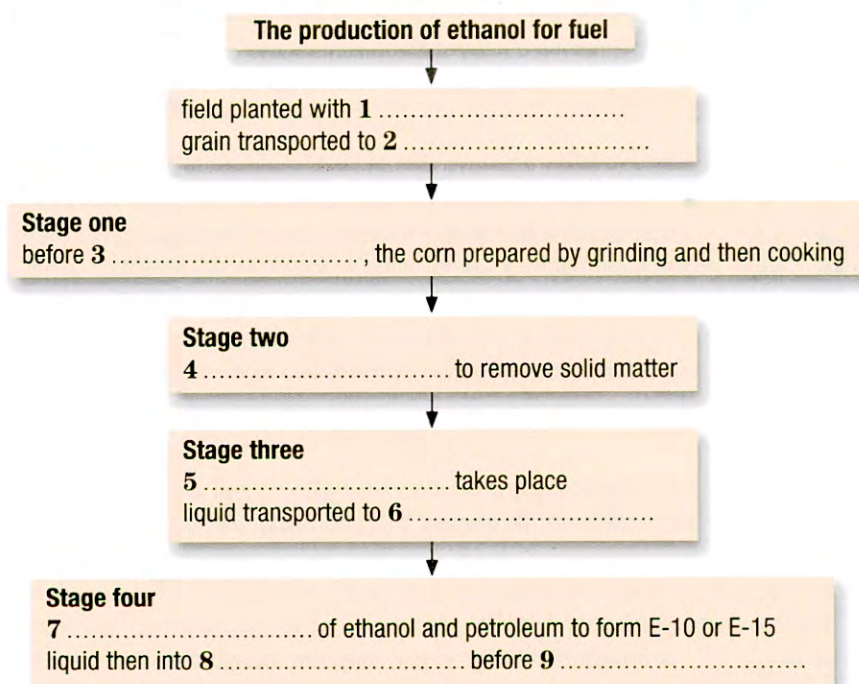
finally _____

at first _____

in the next phase _____

following that _____

- 2 The flow chart below is taken from a Flow chart completion task. Skim the chart, predict the type of word and where possible the words themselves to complete the chart.



- 3 Now complete the chart using no more than TWO WORDS from the passage below.

The production of fuel-ethanol or 'grain spirit' from grain is relatively straightforward. It is made from harvested crops. As the demand for alternative 'clean' fuels increases, farmers are switching from planting crops for consumption to fuel crops like corn, barley, wheat or others that produce oil like palm and rape seed. The growing process is no different from that of any crop. A farmer simply plants a field of corn, which is then harvested. Instead of being taken to a mill to produce flour, the corn is delivered by lorry to a distillery where it goes through four main stages before it can be used as fuel. First, during a preparation phase, the grain is ground and then cooked prior to the fermentation process commencing. Then, before the distillation of the liquid to produce the ethanol takes place, solid matter has to be removed by filtration. At a fuel-ethanol plant, the blending of ethanol and petroleum is carried out to produce E-10, a mix of 10 per cent ethanol and 90 per cent petroleum, or E-15, which is 15 per cent ethanol and 85 per cent petroleum. The liquid is then put into storage and the distribution process is ready to begin.

- 4 Turn sentences a–e into notes as in the flow chart above.

- a Diamonds are formed deep below the surface of the Earth.
- b Filtration is followed by fermentation.
- c Heat is generated by the waste buried in the ground.
- d Electricity is generated by the rotating blades.
- e The recording is published, sold and played on the radio.

Technique

Notice the form of the words in flow charts. Stages in a flow chart are often expressed in note form. Example: Ethanol is produced once the filtering is completed. → *Ethanol produced once filtering completed.*

Improve your IELTS word skills

- 1 Complete the following descriptions by inserting the verbs in the correct tense. Choose from present active, present passive or infinitive with *to*.

store ■ react ■ filter ■ distribute ■ extract ■ blend

Firstly, plant seeds are crushed 1 _____ the oil. Then this oil 2 _____ to take out the impurities. Next, hydrogen is added to it under high pressure. This hydrogen 3 _____ with the oil and makes it hard. Following this, the oil 4 _____ with other vegetable oils. Finally, the margarine 5 _____ in tubs until it 6 _____ to the shops.

fix ■ carry ■ grow ■ fall ■ spread

A seed 7 _____ from a tree to the forest floor or 8 _____ along by the wind, or by a bird or other animal. Lying dormant until the arrival of spring, the seed then sprouts roots 9 _____ it to the ground. The seed begins 10 _____ and in time develops into a fragile sapling. Eventually, the sapling grows into a tree, whose seeds in turn 11 _____ by the wind.

emerge (x2) ■ live ■ lay ■ grow ■ become

An adult mosquito 12 _____ its eggs in water. Larvae 13 _____ from the eggs after 48 hours. They 14 _____ and 15 _____ in the water. Eventually each larva 16 _____ a pupa. An adult mosquito 17 _____ from each pupa within about two days.

cool ■ destroy ■ heat ■ gain

In the process known as pasteurization, milk 18 _____ to a temperature of about 72°C. Then it 19 _____ immediately. In this way, bacteria in the milk 20 _____ and the milk 21 _____ a longer shelf life.

- 2 Which texts describe a life cycle and which describe a production process? Create a suitable title for each text.
- 3 Change the verbs in the first two passages of exercise 1 into nouns. Be careful with the spelling.

Reading Passage 3

1 You should spend 20 minutes on questions 1–14 which are based on Reading Passage 3.

Technique

Survey the title, the reading passage and the questions. Read the title and skim the text and then the questions. Decide what features the reading passage contains: historical information, description, problem, solution. Notice the order of these features. For example do you expect to find the description of something at the end or do you expect to find (a) solution(s) there? This helps you to navigate the reading passage.

Coffee rust

Why do the British drink so much tea? The answer to this question can be traced back, unexpectedly, to a humble fungus, *hemileia vastatrix*, which attacks the leaves of coffee plants causing a disease popularly known as coffee rust. The appearance of this disease was first reported in the British colony of Ceylon (now Sri Lanka) in 1867. Over the next twenty years, coffee production in Asia and Africa was virtually wiped out. Following a period of severe economic and social upheaval, planters in British colonies shifted to planting tea, and the British were gradually transformed into a nation of tea drinkers.

Under British rule, the island of Ceylon was stripped of its forests to turn over every available acre to coffee production. By the 1870s, Ceylon was exporting nearly 100 million pounds of coffee a year, much of it to England. This empire, however, was swiftly devastated by the arrival of the coffee rust fungus. The rust organism can be recognized by the presence of yellowish powdery lesions on the undersides of the leaves of the coffee plant. Occasionally, green shoots and even the green coffee berries can be infected. The infected leaves drop prematurely, leaving long expanses of bare twigs. This defoliation causes shoots and roots to starve and consequently to die back, reducing the number of nodes on which coffee can be produced the following season.

The rust fungus is dispersed by both wind and rain. By observing the patterns of infection on individual leaves, it can be deduced that splashing rain is the most important means of local, or short-range dispersal. Dispersal over wider areas is primarily by wind, although insects such as flies and wasps may also play a small part. How the fungus first made its way from its native Ethiopia to Ceylon is unknown, but human intervention seems to be the only plausible explanation. Insects as carriers can be ruled out, and it is doubtful whether the fungus could have been blown so far.

The coffee growers probably hoped at first that the disease would disappear as quickly and unaccountably as it had begun. By 1879, however, it was clear that it was not going away, and the Ceylon government made an appeal for someone to be sent to help. The British government responded by sending Harry Marshall Ward, whose brief was to investigate the coffee rust phenomenon and hopefully come up with a cure.

Ward recommended that to effectively protect the plant from invasion, the leaves should be treated with a coating of fungicide (lime-sulfur). Unfortunately, in the case of the Ceylon plantations, the rust epidemic was too well established for this protective measure to save the coffee trees. He also pointed out the risks of intensive monoculture. The continuous planting of coffee trees over the island, without



even the benefit of windbreaks, had created a perfect environment for a fungus epidemic to spread. Despite Ward's warning, when the coffee trees were replaced with tea bushes, they were planted at the same density. It was only by good fortune that no similar fungus arrived to invade the tea bushes and that improved fungicides were soon available to protect the crop.

40 With the destruction of the coffee plantations in Ceylon and subsequent arrival of coffee rust in Java and Sumatra, the world's coffee production shifted to the Americas. Plantations were swiftly established in the tropical highlands of Brazil, Colombia and Central America. Brazil soon became the world's major coffee supplier, closely followed by Colombia.

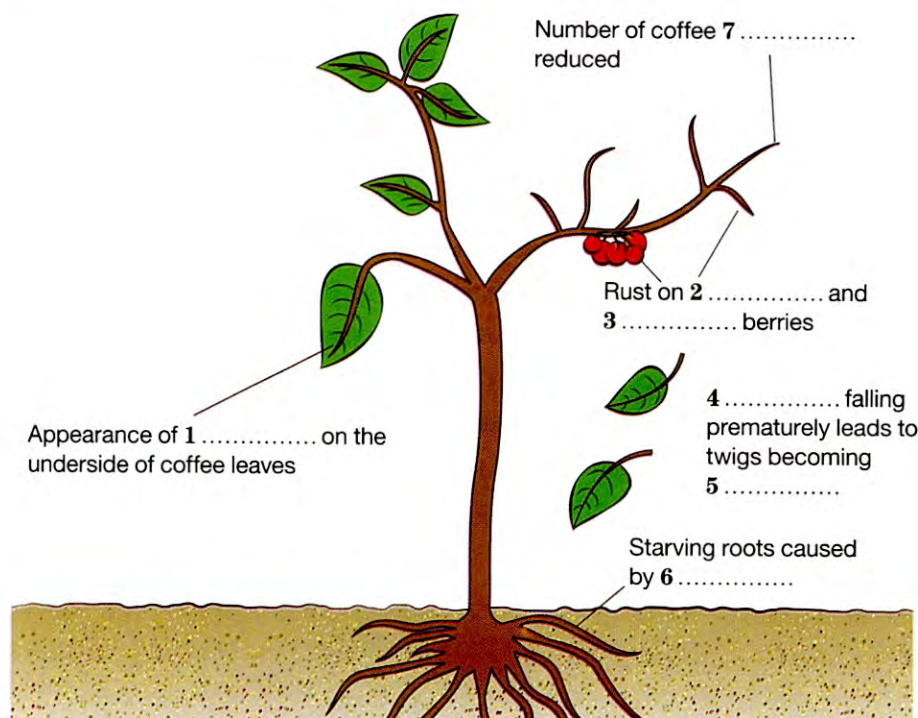
45 Coffee rust was successfully excluded from the Americas for over 100 years by careful quarantine measures. However, in 1970, the fungus was discovered in Brazil, again probably brought in accidentally by humans. Once the barrier of the oceans had been breached, wind dispersal came into play. Infected trees were isolated by creating an 80 km coffeeless 'safety zone' around the infected area, but within eighteen months the rust had jumped the gap in the direction of the prevailing winds. Today, the fungus has spread throughout all the coffee-growing areas, including
50 Colombia and the countries of Central America.

Fungicide applications are now part of the routine production practices on coffee plantations, despite the expense for small growers. Good cultural management, taking into account the density of planting and the climate, is also paramount. Rust-resistant strains of coffee have also been developed but the crop is of poorer quality. Unless a truly rust-resistant variety with more desirable genetic traits can be produced, coffee rust will have to be managed as a continuous epidemic on a perennial crop.

Questions 1–7

Complete the diagram below.

Choose **NO MORE THAN THREE WORDS** from Reading Passage 3 for each answer.



Technique

Labelling a diagram

- 1 Study the diagram and identify the type of word for each gap.
- 2 Underline scan words. Try to predict some of the answers.
- 3 Scan the reading passage to identify which section describes the information in the diagram. Is it likely to be at the beginning, in the middle or at the end of the reading passage?
- 4 Read the section carefully and complete the gaps, using the scan words to guide you to the answers.
- 5 Remember the sequence will probably follow the same order as the numbers on the diagram.

Questions 8 and 9

Choose the correct letter, **A**, **B**, **C** or **D**.

- 8** The most important means of long-range dispersal is
A rain.
B wind.
C wasps.
D flies.
- 9** Coffee rust spread easily in Ceylon
A due to the density of the coffee trees.
B due to the windbreaks.
C because the fungicide didn't work.
D because it was well established.

Questions 10–14

Complete each sentence with the correct ending, **A–G**.

- 10** The move of coffee production to the Americas was triggered by
11 Before 1970, American plantations were protected through
12 Attempts in the Americas to isolate the infected trees failed due to
13 The coffee trees now have to be protected continuously by
14 In the management of the coffee crops, it is also important to consider
- A** the density of planting and the climate.
B the application of fungicide.
C the coffee rust devastation in Ceylon.
D the increased demand for coffee in Europe.
E careful quarantine measures.
F the genetic traits of the coffee tree.
G the prevailing winds.

Technique

Choose 5–7 words or phrases from the reading passage and the questions for future use in all skills. Record the words according to theme and/or function and with a context, e.g. Question 10 'was triggered by', which can be recorded under cause and effect.

- 2** Choose 5–7 words or phrases from the reading passage and the questions that you think will be useful to remember. Keep a record of them.
- 3** Make a list of the text features in this reading passage, e.g. description, historical information and problem. Then do the same with Reading passages 1 and 2.

TOPIC

Predicting
 Answering Yes/No/Not Given statements
 (writer's claims)
 Matching headings (1)

EXAM PRACTICE

Matching headings
 Answering Yes/No/Not Given statements
 (writer's claims)
 Completing multiple-choice questions

Predicting

1 Look at the photos and answer questions a–d.



- How are the learning environments different in each picture? What other patterns of learning can you think of?
- Which of these ways of learning do you prefer? Why?
- Which pattern of learning has been most frequent in your education?
- Is the way people learn in the modern world changing? How?
- How do you think education will be different in the future? Give examples.

Technique

Learn to notice patterns in the reading passages in IELTS. Notice their features such as problem and solution, cause and effect, general and specific within passages. Also take note of the features and the organization of whole passages. This will help you to predict the order of headings, making it easier for you to navigate reading passages. You will be faster at answering the questions.

2 Read headings i–iv, taken from a Matching headings task, and answer questions a–d about the words in *italic*.

- Types* of jobs where literacy needed
- Prediction* about developments
- The *reasons* behind illiteracy
- Illiteracy – a *problem* facing many advanced economies

- Which word relates to a general issue?
- Which word relates to causes?
- Which word relates to a future situation?
- Which words relate to categorizing information?

3 Read this explanation from a student predicting the order of the headings. Decide the correct sequence for i–iv in exercise 2.

If you are writing about illiteracy in advanced economies, it is logical to state the general issue or problem first. Then, you say where it is found. After that, you can talk about the causes, and then what is going to happen next.