

Question 1

The list gives some of the problems faced by a society based on trust.
*Which two problems are mentioned by the writer? Choose **TWO** letters A–E.*

- A The difficulties of relying on international co-operation.
- B The rewards for experienced criminals will always prove a temptation.
- C The developments of technology can make criminal activity easier.
- D The measures that could be used to control crime could also limit our freedoms.
- E The cost of trying to prevent all forms of cheating is too high.

Questions 2–5

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

- 2 We tend to act in a trusting and co-operative way because
 - A the collective interest is greater than our individual interest.
 - B group and individual interest are generally equal.
 - C the consequences of cheating are too great.
 - D it is in our nature to act in a moral manner.
- 3 The writer says that trust is limited because
 - A it does not include our opinions of the law.
 - B we only trust those we are familiar with.
 - C it is linked to our personal reputation.
 - D it is likely that cheats do not trust anyone.
- 4 The examples of overfishing and the problem of the banking system show that
 - A problems affect both society and the natural world.
 - B the system of trust is not reliable.
 - C the balance between co-operation and cheating is always at risk.
 - D people who cheat the system will sometimes have an advantage.
- 5 According to the writer, defectors from the system
 - A find it increasingly easy to cheat.
 - B can hope to achieve positive solutions to problems.
 - C are generally intelligent and innovative.
 - D try to do as much damage as possible.

Question 6

Which of the following is the most suitable title for the text?

- A The impossibility of co-operation in a world of cheats
- B The increased threats to a functioning society
- C How to keep criminals in check for the benefit of society
- D The importance of technology in balancing risk and reward in society
- E The complexities of a society based on trust

Questions 7–10

Complete the summary of the third paragraph below.

*Choose no more than **THREE** words from the passage for each gap.*

Society is a network of related elements that depend on one another. What holds society together and enables it to work effectively is the 7 of its members. For this to happen, it is important that people behave as 8 , which applies equally to 9 However, some may aim to abuse this system for their own benefit by 10 These are the parasites who enjoy the fruits of co-operation while exploiting it selfishly for their purposes.

Comments

Q1

Answer: C, D

C (... ATM-based 'card skimmers' and 'new technologies' ... increase the scope of defection.)

D (Anonymity is essential to freedom and liberty ... Yet it also protects criminals.) A is not mentioned at all. B may be understood, but is not mentioned; E is not specifically mentioned, though logical, as the text says the goal is not to make everyone comply, but to limit the scope for cheating.

Q2

A Correct. This is the paradox mentioned in the fourth paragraph.

B Incorrect. It is contradicted in the text

C Incorrect. It is mentioned as one example regarding stealing, not as a general fact, and human nature is not mentioned.

D Incorrect. We have learnt to balance collective and personal interest as society has grown – it is not nature.

Q3

A Incorrect. Although the law is mentioned several times, our opinion is not the focus.

B Correct.

C Incorrect: Reputation is mentioned as a means of regulating small groups.

D Incorrect: The trust of cheats is not mentioned.

Q4

A Incorrect: These are used as examples of the bigger problem of maintaining a balance between co-operation and cheating.

B Incorrect: The system is not discussed in terms of reliability.

C Correct. The balance isn't static.

D Incorrect: Although it is true technology gives cheats an advantage, the purpose of the example is to show the scale of the problem, not the means by which it was achieved.

Q5

A Incorrect. Although some cheats use technology, there is no mention of all defectors doing this.

B Correct. Defectors helped slaves escape and work to overthrow bad governments.

C Incorrect. While defectors innovate, it is not clear they all do.

D Incorrect. There are examples of global problems, but there is nothing about these being the goal of all defectors.

Q6

A Incorrect. The text does not say that co-operation is impossible.

B Incorrect. The increased threats are given as an example of current problems.

C Incorrect. The text doesn't mention discouraging criminals specifically.

D Incorrect. Technology is just a fact of life.

E Correct.

Q7 widespread co-operation/cooperation

Q8 expected

Q9 organizations and systems

Q10 cheating

Tips

- 1 Be careful: sometimes you are given words in a box to complete a summary. The words in the box might be different from in the text. They could be a different form of the same word, or synonyms, or a paraphrase (see page 51).
- 2 Identify the relevant section in the text, then read it carefully.
- 3 Remember, the information may not be in the same sequence.
- 4 Check the gap and predict what sort of word is needed.
- 5 Make sure you know how many words are required in the answer.
- 6 Read your completed answer and check it makes sense.

- 7 Re-read the text and find ten useful expressions to write in your vocabulary book. Explain to your friend why you have chosen these expressions and why you think they are useful.



Spotlight on language

Forms with *-ing*

1 For each of the sentences below, decide whether the clause with the *-ing* form:

- a gives an explanation or reason
- b lists a sequence of activities
- c provides a description.

- 1 Coming from a small family, I am more comfortable in small groups.
- 2 Having been unemployed myself, I know how soul-destroying the experience can be.
- 3 Having completed his military training, he went on to become an officer in the army.
- 4 Never having lived in anything but a small village, she found city life overwhelming at first.
- 5 Expecting the house to be empty, the burglar broke the window and went in.
- 6 Shouting and screaming, the crowd started to run at the police cordon.
- 7 Directly on arriving in the country, they applied for refugee status.
- 8 Having no qualifications, they had no illusions about the sorts of jobs they could find.
- 9 Sleeping where they can, begging and even stealing if necessary, the homeless live from day to day on the margins of society.
- 10 He decided to make a formal complaint, **having** been treated unfairly – in his opinion – by his immediate superiors.

Active and passive infinitives

2 Decide whether one or both options in italics are grammatically and logically correct in these sentences.

- 1 There is still a lot to *do* / *to be done* before we can consider the situation acceptable.
- 2 I'm disappointed because I expected *to have finished* / *to be finished* before now.
- 3 Nobody can deny that the law on discrimination needs *to be changed* / *to have been changed*.
- 4 There is something *to be said* / *to be saying* for providing additional support for minority groups.
- 5 The report seems *to be suggesting* / *to have been suggested* a reduction in police presence as a calming measure in the worst affected areas.
- 6 It remains *to see* / *to be seen* whether the government measures actually improve the condition.
- 7 Five months after the riots, life in the inner-city areas seems *to be improving* / *to be improved*.
- 8 The authorities failed *to have been put* / *to put* in place the sort of safety net that could help these vulnerable people.
- 9 The desire *to be appreciated* / *to have appreciated* is so fundamental in all of us that it can almost *be considered* / *be considering* a human need.
- 10 If we want to prevent these problems developing into social unrest, we need *to be taking* / *to have been taking* action right now before it is too late.



Note completion

1 Read this text and answer Questions 1–16 on page 67.

- A A social problem can be defined as a condition that is considered undesirable by sufficient number of members of a specific community to constitute a group. There are, however, degrees of social problem, ranging from the relatively trivial to those that are so serious as to call into question the most important values of the society in question. On some there is likely to be consensus, while others may provoke extreme debate. Nobody could claim that social problems such as murder and traffic deaths resulting from drink driving are to be accepted as minor issues. However, it is not hard to find examples of other social problems that divide opinion. Teenagers playing loud music in a public park on finishing their school day obviously do not consider their behaviour unreasonable, but it may well be considered an extremely undesirable social condition by other groups who feel they have an equal right to enjoy the park and its facilities. Similarly, a number of non-smokers hold the view that smoking is an undesirable social condition that should be banned or restricted in all outdoor public areas.
- B Nevertheless, research indicates there are factors that determine the degree to which a phenomenon comes to be perceived and accepted as a social problem. For example, the likelihood of a condition being considered a social problem is much greater if the group it affects are themselves powerful; that is, if they are figures of influence. For this reason, the problems that made life difficult for the poor tended to escape notice until they had some impact on the rich and middle-class citizens, for example when they became victims of crime. In the United States, the problem of drug abuse attracted substantially more attention once it spread from the lower-class, predominantly non-white population and began to affect the sons and daughters of the educated middle class.
- C By much the same logic, if a condition has an impact on a small subsection of the population, it will more easily escape attention than when its adverse effects impact on a larger social group. Again, in the United States, the poverty of African Americans has featured much more prominently than the poverty of Native Americans. This can partly be explained by the fact that African Americans constitute a much larger group and are more visible.
- D The third factor relates to the dynamics of the condition. If the number of people directly affected is seen to be increasing rapidly, public awareness will rise. For example, we become used to prevailing levels of crime, traffic congestion, atmospheric pollution and even political corruption. But should there be a sharp rise in intensity in one of these, public concern will also increase. One case of political corruption a year may be a source of concern for our institutions, but five such cases in one month will forcefully grab the public's attention.
- E Also worth a mention is the role played by the mass media, which, according to many commentators, have largely and unfortunately failed in any attempt they might have made to address social problems. In fact, some would go further and state that if anything, television, radio and newspapers have actually contributed to the problems that exist and made them worse. This is to a great extent because they have reinforced the stereotypes that relate to race, class and gender rather than tackle them.
- F Until the advent of the Internet, television was without doubt the primary vehicle through which society received its information and also the mirror of society in the way in which it reflected its values and expectations. Television has a vital role to play in the presentation of news and

information. Consequently, what a particular station chooses to present as newsworthy will inevitably influence the way viewers interpret both their society and the world around them.

- G** All too often, television news programmes tend to focus on stories that present negative images of minority groups. We are bombarded on an almost daily basis with stories of minorities engaging in crimes such as robbery, murder and rape. These crimes by implication become characteristic of minorities. The success stories that could counterbalance this negativity are remarkably absent. The single mother who, despite the odds, finishes college with a good degree; the young man from the inner city who works his way up from the factory floor to hold a position of responsibility in the company – these stories rarely feature.

Questions 1–12

Complete the notes below.

Choose no more than **TWO WORDS** from the text for each answer.

What's a social problem?

Definition: A condition that a group views as 1

Can be 2 or extremely serious

Consensus on drink driving and 3

Loud music in a park: debatable

Factors influencing acceptance of social problems

- If people affected have power and 4

Example: 5 not considered a problem when it was limited to lower class.

- Size of the population it affects

Example: poverty of 6 was overlooked.

Habit

We get used to problems like pollution, etc. However, 7 will attract attention.

8

Addressing social problems unsuccessful or not attempted.

May have made problems 9

Example: race, class, gender 10 not tackled, but 11

Few examples of stories of 12

Questions 13–16

The passage has seven paragraphs labelled **A–G**.

Which paragraph contains the following information?

Write the correct letter, **A–G**.

NB You may use any letter more than once.

13 The significance of the size of the group of those affected

14 Deciding to ignore the positive

15 Disappointments about lack of influence on the problems

16 Disagreements of interpretation of social problems

- 2** Make a collection of sentences with **-ing** forms and infinitives when you next read an article online or in a newspaper. Make a copy of the article and cut out all infinitive and **-ing** forms (and remember to keep a copy of the original so you can check). The next day, see how many of the gaps you can remember accurately.

CLASSROOM WORKOUT

Crime and technology

- Brainstorm a list of crimes and write them on the board.
 - Work in groups. Half the class discusses how technology can be partly responsible for the crimes listed. The other half discusses how technology could make a contribution to preventing the crimes. You should try to use at least 5–10 expressions from this unit.
 - After five minutes, make pairs with one person from the other group. Discuss the two positions, and add further ideas.

CHECK YOURSELF

- How many different social issues can you remember being mentioned in this unit?
Read the texts again to check if you were right.
 - What other social issues are you aware of?

SUMMARY

In this unit, you:

- discussed a number of social issues. Which are most prevalent where you live?
 - looked at collocations connected with social issues. How many have you written down in your notebook?
 - looked at common patterns that organize texts. How many can you remember?
 - studied different ways sentences develop into texts. How can this help you with the exam?
 - studied and practised **note and summary completion questions**. What are the key things to remember about them?
 - practised structures with *-ing* forms and infinitives. Which were not new for you?

Over to you

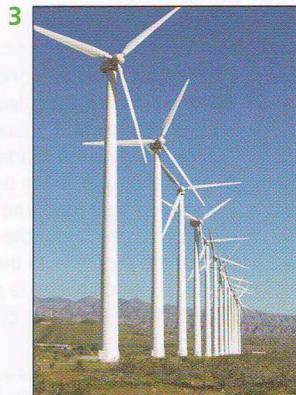
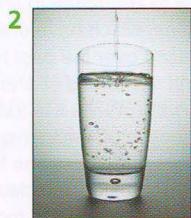
- 1 Ask your friends what they think the most pressing social issues are where you live.
 - 2 Read newspapers and magazines to find out the latest news on what governments are doing to make life better for all groups in society.
 - 3 Go online and find websites that support minority groups around the world. What action do they think is necessary to improve their situation? What can individuals do to help?

UNIT 6

The world around us

In this unit, you will:

- discuss the most pressing problems facing the environment
- study and practise diagram labelling
- study and practise chart and flow-chart completion.

Getting started

1 a Match the photos (1–9) with these environmental issues (a–j).

- | | | |
|---------------------|-----------------------------------|-------------------------|
| a air pollution | b land use and endangered species | c chemicals and toxins |
| d clean water | e climate change | f deforestation |
| g demand for energy | h oceans and fisheries | i ozone layer depletion |
| j waste management | | |

b Which photos could represent more than one environmental issue?

2 The environmental problems in Exercise 1 represent ten serious threats to the environment. Which do you consider to be the five most serious? Which two do you consider the least important?

3 Which of the ten environmental issues do you associate with these expressions?

- | | | |
|---|-----------------------------------|---------------------------|
| floods and droughts | drinkable water | safe and renewable energy |
| endangered species | pesticides and chemical compounds | ultraviolet |
| illegal logging and cutting down the rainforest | overfishing | landfill |
| rubbish dumps | smog | loss of habitat |
| recycling | acid rain | polar ice caps |
| unleaded petrol | | fleet of trawlers |
| contamination of rivers, lakes and seas | | risk of disease |



Spotlight on exam skills 1

Table completion

1 Match these texts (1–10) with the ten issues from page 69 (a–j).

The top 10 most serious threats facing the environment in the 21st century

- 1 This is an all-encompassing issue. It includes rising sea levels that threaten low-lying countries; changes in rainfall patterns that can give rise to more severe droughts in parts of Africa and around the world and floods that devastate cities, leaving thousands homeless; harsher hurricanes and other windstorms; and, worryingly, new pathways for disease.
- 2 For companies and countries that are big energy users, energy productivity and safe and efficient exploitation of natural resources are likely to become major strategic advantages in the future. Learning how to make better use of the finite resources of the planet is the key to our future, many claim.
- 3 According to some estimates, by 2030 one in three people will not have access to safe drinking water unless something is done to increase our global reserves. Rapidly developing economies and huge increases in the population of the world are putting substantial stress on this most precious resource.
- 4 From desertification to polar ice melting, from coastal erosion to massive deforestation, it is clear that we need to learn important lessons about effective land management very quickly. Biodiversity is a system of natural balance which preserves the food chain and the ecosystems on which all life depends. Habitat loss is a key element in the loss of biodiversity. Some scientists are open about their fears that we are in the midst of a period of mass extinction unique since the age of the dinosaurs and one that could see the disappearance of half the plant and animal species by the end of the century.
- 5 A significant element contributing to making all forms of pollution more dangerous is the presence of heavy metals such as lead and mercury that can poison our air, earth and water. We have no way of knowing what the long-term effects of many of these chemicals may be, as they are new. Some studies are suggesting that many compounds could be endocrine disruptors – chemicals that have a disruptive effect on the hormone balance in our body. The introduction of unleaded petrol made a significant difference, but this victory is over-
- shadowed by the consequences of the rapid industrial development taking place around the world. The number of people at risk of poisoning themselves by drinking polluted water, eating polluted food and using everyday objects that contain hazardous chemicals has increased alarmingly.
- 6 Chemicals released into the air can cause both the smog that clouds our cities and the acid rain that can devastate woodland. These and other forms of air pollution are known to contribute to chronic respiratory illnesses, which have dramatically increased over the past few decades, leading to millions of premature deaths every year. While it is true that the introduction of strict air-quality controls on factories and emissions from cars and other road-using vehicles has reduced the level of air pollution in most industrialized nations, a great deal of work remains to be done.
- 7 In large parts of the world, we have grown used to a throwaway lifestyle. But this is both unhealthy and unsustainable. Look at our waterways and roadsides – they are deep in the rubbish we discard. Packaging, fast food and cheap electronics are undoubtedly a significant part of the problem. In the industrialized world, so much waste is produced that we now export it to poorer countries for storage.
- 8 The most harmful ultraviolet radiation from the Sun is filtered out by the ozone layer before it reaches the surface of the Earth. Nevertheless, we are witnessing increased rates of skin cancer and damage to plants and ecosystems as a result of the dangerous depletion of the ozone layer. Actually, there are reasons to claim this as one of our few environmental success stories: the topic received a great deal of attention in the 1970s and '80s, when a giant 'hole' in the ozone layer was discovered above Antarctica. Luckily, people were persuaded to act quickly to scale back the production and use of CFCs and other substances proved to be responsible for the hole, so although not solved, research indicates positive signs of gradual improvement.

Tip:
In these questions, you will be asked to complete gaps in a table or flow chart using a limited number of words from the text.
 - Check the word limit given in the instructions and stick to it. Check whether note form is used.
 - Scan the text to locate the relevant section(s) for the answers needed.
 - Use the words exactly as given in the text. Don't change them.
 - Check your spelling, otherwise you will lose marks.

9 With more than three-quarters of the planet covered by water, the importance of the sea is clear. Over 80 per cent of all life on Earth lives in the ocean, making it unmatched for biodiversity. Millions depend on it for their livelihood. But the vast majority of the world's fisheries are overexploited. It has been calculated that in some places, catching a ton of fish requires 17 times more effort now compared with a century ago.

10 At the current rate of destruction, the world's rainforests could have completely disappeared by the end of the century. This is serious for many reasons. The loss of habitat and resultant decline in biodiversity is just one. Deforestation also influences climate and geography and contributes to global warming. Trees are a significant part of the water cycle, and can prevent soil erosion. Agriculture is the single biggest cause of deforestation, as farmers cut forests in order to have more land for crops and animals.

2 Answer these questions.

Questions 1–8

Complete the table below.

Choose **NO MORE THAN THREE WORDS** from the text for each answer.

	Consequence	Possible health problems	How the situation has developed
Ozone layer depletion	Ultraviolet radiation no longer 1	2	There has been a 3 in the situation.
Air pollution	Creates city smog and 4	5	Pollution levels reduced following controls imposed on 6 and exhaust fumes from vehicles.
Chemicals and toxins	All forms of pollution are made more dangerous.	Can alter body's 7	Millions still at risk, but use of 8 has been a positive contribution.

Questions 9–12

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

- 9 Where is the greatest biodiversity on the planet found?
- 10 What problem do scientists fear this age could share with the age of the dinosaurs?
- 11 Where is much of the industrialized world's waste sent?
- 12 Which professional group is most responsible for deforestation?

Tip:
 - Pay attention to the headings of the columns in a table so you see what information is required.
 - Look at any completed examples provided for further guidance.
 - Look at the gaps and predict the type of word required.

3 Find three different websites that list the most serious environmental issues facing the world today. Do the same issues still feature? Make a note of any changes.

4 Find this information on the Internet.

- 1 What are the ten most endangered species in the world?
- 2 What are the biggest cities on each continent?
- 3 What are the ten biggest multinational companies?
- 4 What are the most important measures your country has taken to protect the environment?

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Vocabulary builder

Verbs of change

1 Choose the correct verbs of change in these sentences.

- 1 We live in a *converted / transformed* farmhouse. It's very modern now.
- 2 The book has been *turned / translated* into 40 languages.
- 3 The city centre has been completely *transformed / refurbished*.
- 4 The film paints a *blurred / distorted* picture of life in the US in the 1950s.
- 5 The two motorways *blend / merge* into one at the next junction.
- 6 Unfortunately, the problem of acid rain has *deteriorated / impaired* in recent years.
- 7 It is not easy to *amend / adjust* to life in a new country.
- 8 The hotel has *renovated / enhanced* all the rooms on the top floor.
- 9 Their parents *immigrated / emigrated* to Canada before they were born.
- 10 I asked to be *removed / transferred* to another office.
- 11 The situation is tense, and we don't want it to *escalate / heighten*.
- 12 The species that manages to *adapt / acclimatize* to the situation best is normally the one that survives longest.

2 Use your dictionary to find expressions with the verbs that were not the answers in Exercise 1.

3 Circle the odd one out in each list.

- | | |
|----------------------|---|
| 1 change size: | enlarge / grow / expand / remove |
| 2 change place: | rise / relocate / transform / soar |
| 3 change appearance: | dye / rejuvenate / modify / reinforce |
| 4 change condition: | disguise / damage / worsen / ruin |
| 5 change speed: | accelerate / embellish / rocket / rein in |

4 How many different possibilities can you think of for completing these sentences logically using verbs from Exercise 3?

- 1 The rain the occasion.
- 2 The company very quickly.
- 3 I felt after the holiday.
- 4 We decided to our spending.
- 5 The news could their reputation.
- 6 Experiences like that can a person's future.
- 7 Prices have since the beginning of the year.
- 8 You shouldn't try to the truth.

5 Look back at the ten texts on pages 70–71 and find examples of verbs of change.

Most texts are to some extent about change – they talk about what has happened, is happening or may yet happen, or why these things might not or should not happen. For example, when we bring our friends and colleagues up to date in communication, whether written or spoken, we are normally informing them about some aspect of change since we last met.

Furthermore, when we communicate, we intend to add to what the listener or reader knows about a topic in some way; in other words, we hope we are changing their opinion or stock of knowledge. Consequently, you can say that most communication is concerned directly or indirectly with the topic of change.

So, when reading a text, it is a good idea to pay attention to expressions of change, as these are often key points in the overall meaning of the text.

Verbs don't generally occur on their own. Learn how verbs combine with other words.

Common patterns to pay attention to are:

- verb + noun: *solve a problem, make a complaint, knock down a building, develop the city centre*
- verb + adverb: *move quickly, read aloud, change rapidly*
- verb + preposition: *turn into, pay back, drive along, rely on*
- verb + adjective: *remain calm, turn black, go cold, grow old, sound nice*

You'll find good dictionaries provide a lot of information about such verb patterns. Keep a note of the verb patterns you notice. When reading, pay attention to what the verb combines with in each sentence.

Processes

6 Complete the missing information in this table.

verb	process noun	adjective	related noun(s)
mechanize	mechanization	mechanical	mechanic
purify	1	pure	purity
2	colonization	colonial	colony
classify	classification	3	class
magnify	magnification	magnified	magnitude
4	justification	5	
homogenize	homogenization	6	homogeneity
7	hospitalization	hospitalized	hospital
minimize	minimization	minimal	8
clarify	9	clarified	clarity
automate	automation	10	automaton
simplify	simplification	simplified	11
12	computerization	13	computer

7 Complete these sentences using words from the table in Exercise 6.

- 1 The process of removes impurities from liquids such as milk.
- 2 Most office procedures have been – so when the computers crash, we have a problem.
- 3 There is little for behaving in that unprofessional manner.
- 4 This diagram was produced in order to the relationship between the different sections.
- 5 The garden was invaded by a of ants.
- 6 The teacher gave the elementary students a version of the book to read.
- 7 This product resists as it really is unique.
- 8 The problem can be solved with effort.



Flow-chart completion

You should spend 20 minutes on this question.

Reverse osmosis

Our blue planet is a paradox. Life depends on water, yet in its natural form, the water in the oceans will not sustain us because we cannot drink salt water. Fortunately, salt water can be made into fresh water, with the salt removed in the process of desalination. Although historical research shows this is nothing new, it is only in the last few decades that the conversion of salt water on a large scale has become possible, though it still only accounts for a tiny proportion of our needs.

Desalination is being adopted as a solution to the problem of the scarcity of usable fresh water in areas where demand has outstripped the sustainable supply, or where natural sources of water supply are either fragile or in danger of being exhausted and also where climate change is making previously reliable sources unreliable. It takes sea water and produces water that is suitable for human consumption or for agricultural purposes by a separation process that removes the dissolved salts and other impurities. There are various methods for doing this; the one most commonly used is called reverse osmosis, which involves four major processes, or stages, namely initial pre-treatment, pressurization, membrane separation and finally post-treatment stabilization.

Once the water has been collected from its source, it is transported to a holding basin. In reverse osmosis, pre-treatment is very important, as the surfaces of the membranes that play a central role in this method of desalination need to remain clean to work effectively and can be easily dirtied and damaged by impurities in the feed water, as it is now called. In the initial part of this pre-treatment stage, pieces of wood and smaller suspended solids like sand are removed by passing the feed water through a particle filter. Then the filtered water is pumped through fine carbon microfilters that trap minerals and contaminants such as pesticides. Chlorine is also removed here as a protective measure, as it would otherwise shorten the life of the membranes. Next, the water is put under high pressure and pushed through the permeable membranes arranged in series, which prevent the passage of dissolved salts in the seawater, while allowing the separated and desalinated product water to pass through. Approximately half the feedwater becomes product water. The remaining 50%, now with a higher concentration of salts, is rejected and returned to the source. In the post-treatment stage, the product water undergoes blending with chemicals and minerals. Finally, the product water is sent to a cistern, where it is stored awaiting distribution for use.

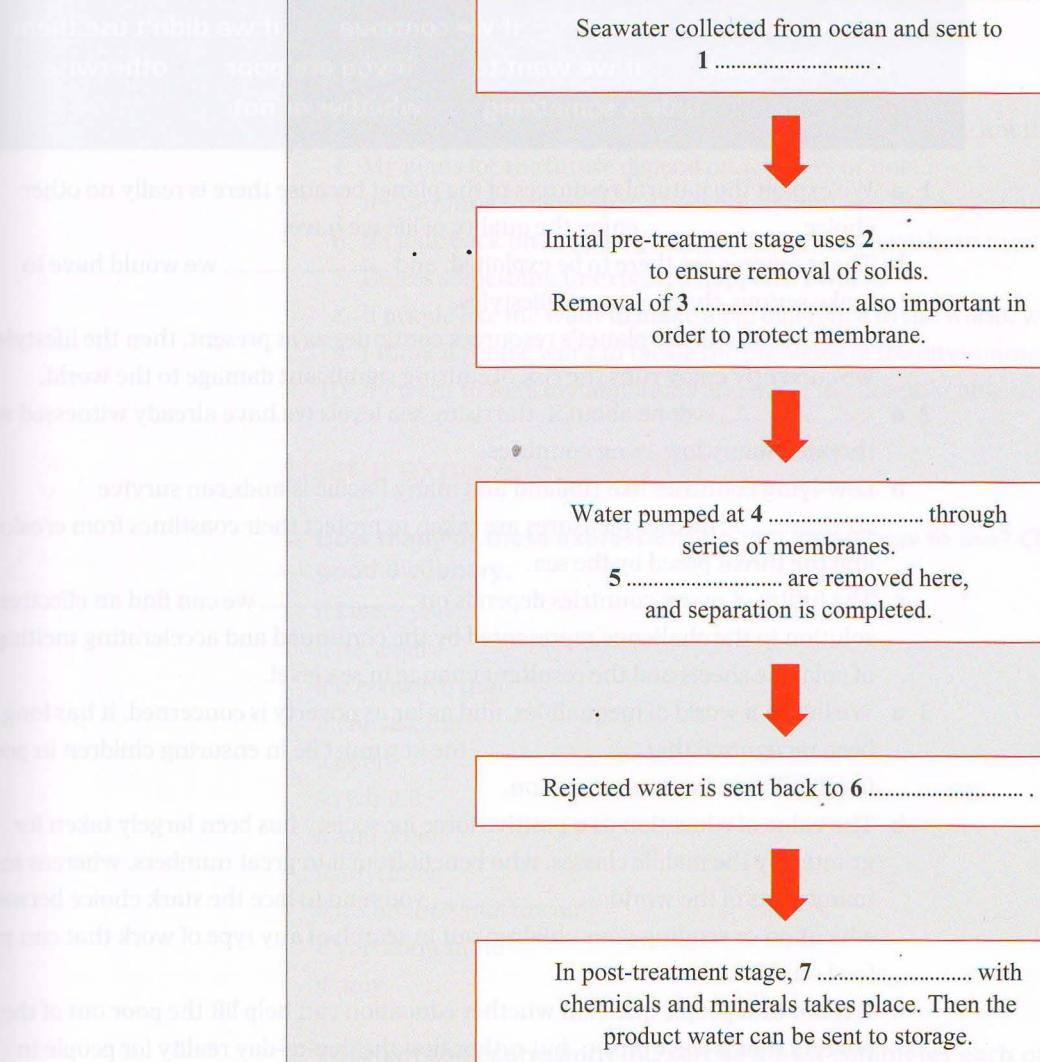
Reverse osmosis is growing in popularity, as major improvements in the membranes, energy recovery, pumps and pressure vessels over the past ten to 20 years have brought down the cost of desalinated water significantly.

Questions 1–7

Complete the flow chart below.

Choose **NO MORE THAN TWO WORDS** from the text for each answer.

The desalination of sea water by reverse osmosis



Questions 8–10

Which **THREE** of the following facts about the process of desalination are mentioned in the text?

- A It is cheaper now than it was in previous years.
- B It is more energy efficient than other methods.
- C Its end product is not restricted to use as drinking water.
- D It returns water back to the source in an altered condition.
- E It involves the use of dangerous chemicals.



Conditional practice

1 Complete the sentences below with the words and expressions in the box.

as long as if exploitation if that were not the case
 if the situation is to change If we continue if we didn't use them
 if we look back if we want to if you are poor otherwise
 unless something whether or not

- 1 a We exploit the natural resources of the planet because there is really no other choice enjoy the quality of life we have.
- b The resources are there to be exploited, and , we would have to make serious changes to our lifestyles.
- c of the planet's resources continues as at present, then the lifestyle we currently enjoy runs the risk of causing significant damage to the world.
- 2 a is done about it, the rising sea levels we have already witnessed will threaten many low-lying countries.
 - b Low-lying countries like Holland and many Pacific islands can survive further measures are taken to protect their coastlines from erosion and the threat posed by the sea.
 - c The future of many countries depends on we can find an effective solution to the challenge represented by the continued and accelerating melting of polar ice sheets and the resultant change in sea level.
- 3 a We live in a world of inequalities, and as far as poverty is concerned, it has long been recognized that , the key must lie in ensuring children in poor families have access to education.
 - b The value of education as a positive force for society has been largely taken for granted by the middle classes, who benefit from it in great numbers, whereas in many parts of the world, , you tend to face the stark choice between education or sending your children out in search of any type of work that can put food on the table.
 - c It is not that people question whether education can help lift the poor out of the poverty that is their prison, but rather that the day-to-day reality for people in that situation is that they must do what they have to in order to survive. , there would be no child labour, something the middle classes sometimes fail to comprehend.
- 4 a In this time of accelerating change in all aspects of life, it is often forgotten that ecosystems are undergoing a process of constant change and are themselves subject to evolution, so that at various times they will be composed of different organisms. at the ecosystems of 10,000 years ago, they are different from the ones we have today.
 - b As we continue to lose species at a rapid rate, it is imperative that we discover which losses will have the most serious consequences on ecosystems, the unprecedented degree of change risks causing the collapse of the ecosystems that we all ultimately depend on.
 - c to lose species at the same alarming rate as at present, there is no doubt that the ecosystems will be profoundly different by the end of the century; however, we must also remember that the process of loss through evolution is a natural one and not unique to this day and age.

- 2** In each group of three sentences in Exercise 1, at least two of them have more or less the same meaning. It is possible that all three are similar in meaning. Read the sentences in each group and decide which one, if any, is the odd one out, and say why.

Sentence completion

- 3** Complete these sentences so they are true for you.

- 1 As long as I work hard, I should ...
- 2 Having a good level of English is important, otherwise ...
- 3 I want to get a good result in the IELTS test. If that were not the case, ...
- 4 My plans for the future depend on whether or not ...
- 5 If I continue to develop my vocabulary and practise my pronunciation, ...
- 6 If I look back on the past year, the things that have been most important for me ...
- 7 Unless something unexpected happens, I will ...
- 8 If people like me want to make a big difference to the world, we ...
- 9 I think if people want to tackle the problems of the environment, we ...
- 10 If I want to fulfil my ambitions and make my dreams come true, I ...

Useful expressions with *if* ...

- 4** How many of these expressions do you know how to use? Check in a good dictionary.

if I were you
if necessary
if it comes to that
if you ask me
if at all
so what if
if and when
if anything
if it's all the same to you
if you don't mind
if only

- 5** Which of the expressions in Exercise 4 best completes each of these sentences?

- 1 The current situation is difficult, with some economies growing by less than 1%,
- 2 You asked me for my advice. Well, , I would walk a bit more rather than taking a taxi everywhere. It's good for you and the environment.
- 3 It's depressing talking about the problems facing the environment. , I'd rather change the subject.
- 4 I don't think governments should be content with what they are doing to value and protect wildlife. , they should do more.
- 5 Fish stocks are dangerously low. Overfishing might drive some species to extinction. , we will have destroyed the balance of life in our oceans for ever.
- 6 We know now that we made serious mistakes in the past. we could turn back time!
- 7 The protesters were prepared to go to prison for what they believed in
- 8 I just don't believe global warming is a proven fact. it rains a bit more in some parts of the world? It's not my problem.



Spotlight on exam skills 3

Table completion

In this question type, you fill in the gaps in a table using words from the text.

You will be told the maximum number of words you can use – often three. Do not use any other words and make sure the words you do use are spelled correctly.

1 Read this text, then answer Questions 1–8 on page 79.

Extremophiles – living life on the edge.

You may think that people are capable of living in a wide range of environments, from the hot deserts of Africa and the Middle East to the freezing cold of Siberia or Northern Canada. Being an intelligent species, we worked out how to use fire to keep us warm in cold conditions and, considerably later, air conditioning to keep us cool in hot climates. But our ability to survive in extreme conditions is surpassed by a wide variety of organisms capable of thriving in environments in which no human could survive – the extremophiles.

Take, for example, *Spinoloricus cinzia*, a tiny creature, about a millimetre long and looking a little like a jellyfish. This recently discovered animal is particularly interesting, as it appears to be capable of living without oxygen and is thus a multi-cellular anaerobe. The cells of most organisms contain mitochondria, which use oxygen to generate energy, whereas the cells of *Spinoloricus cinzia* do not contain mitochondria. Most anaerobes so far discovered are microbes and use a form of fermentation to gain energy – such as those found in human intestines. Some anaerobes will actually die in the presence of oxygen.

In some parts of the world, there are deep-sea hydrothermal vents through which very hot water flows into the sea. Recent studies have shown that there are some thermophilic bacteria, such as *Methanopyrus kandleri*, which are capable of surviving near these vents – in temperatures of up to 120 degrees Celsius – and they may in fact die in temperatures below 50 degrees Celsius. The important factor that allows such organisms to survive at such temperatures is the presence of enzymes that can withstand intense heat – heat that would destroy the enzymes found in other organisms.

While there are many examples of small creatures such as bacteria that are extremophiles, there are others, such as *Pachycereus pringlei*, which are almost 20 metres tall. *Pachycereus pringlei* is a cactus which grows in north-western Mexico and is a member of the class of xerophiles, organisms that are capable of surviving in an environment with very little water. Xerophilic organisms have adapted to such environments; for example, a saguaro cactus can absorb 760 litres of water during a rainstorm. Another adaptation is a long taproot, which can be several times longer than the part of the plant above ground.

You may not be familiar with *Helicobacter pylori*, but there is a good chance you are carrying around a few million of them in your stomach, as more than half the people in the world have them. *Helicobacter pylori* are a kind of bacteria which are able to survive inside your stomach, where the environment is strongly acidic. It can do this by having a thick cell membrane and also by producing a chemical called ammonium, which neutralizes the acids found in the stomach.

While most acidophilic organisms find strategies for surviving in acid environments by neutralizing the acid, one acidophile, *Acetobacter aceti*,

positively thrives in an acid environment. This bacteria has special proteins which can survive in very acid environments, so there is no need for it to modify the acidity.

While extremophiles might be seen as an interesting novelty, some of them play an important role in industrial processes. For example, many anaerobic bacteria are used in the production of biogas from cattle manure. Thermophilic bacteria are being used to remove toxic chemicals from soils and sediments. With the unstable nature of world weather patterns, xerophilic plants could prove useful in agriculture. The acidophilic *Acetobacter aceti* is already extensively used in the food industry. This tiny microbe is capable of turning ethanol into vinegar.

Questions 1–8

Complete the chart below.

Choose **NO MORE THAN TWO WORDS** from the text for each answer.

Kind of organism	Description of environment in which it lives	How the organism has adapted	Example of how the organism can benefit humans
anaerobes	An environment in which there is no 1	Uses 2 to produce energy	Able to produce 3 from animal waste
thermophiles	Hot areas with a temperature between 50 and 120 degrees Celsius	Has special 4 that do not break down in high temperatures	Able to break down 5 in earth
6	Areas with very little water	The ability to 7 water quickly	May have an increased role in agriculture
acidophiles	Areas where the pH is very low	Able to neutralize acids or to withstand acid conditions	Important microbes in the production of 8

Expressions with earth

2 Use the context of these sentences to work out what the expressions in **italics** mean. Check your answers in a good dictionary.

- 1 Why *on earth* did you do that?
- 2 He said he's the happiest man *on earth* at the moment.
- 3 Then he made an *earth-shattering* discovery.
- 4 There's *no earthly* reason for reacting like that.
- 5 Good holidays needn't *cost the earth*.
- 6 Returning to work after the holiday always brings me *back down to earth with a bump*.
- 7 The poor live in simple shacks with *earthen* floors.
- 8 My favourite subject at school was *earth sciences*.
- 9 He's got a very *earthy* manner, and not everybody likes that.
- 10 They don't have much money, but people like them are the *salt of the earth*.
- 11 It was as if they had vanished *off the face of the earth*.