

10 Reaching for the skies

Space, the planets

Space

1.1 Answer these questions.

- 1 Would you like to travel into space? (Why? / Why not?)
- 2 What do you imagine it would be like?
- 3 What problems do you think you would experience in space?

1.2 Complete the text below with suitable words from the box.

astronauts atmosphere commercial explorers
launch outer simulator weightlessness

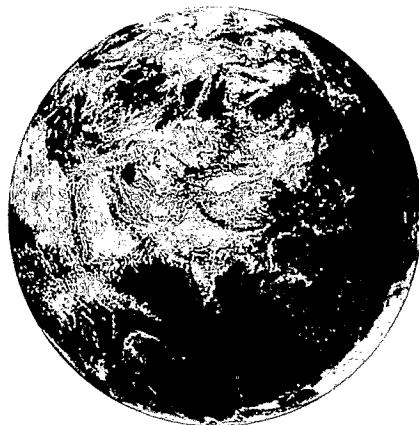
If you have ever dreamed of travelling in space then our (1)..... space travel programme will make that dream a reality. Of course, passengers will need to prepare for this experience. However, unlike the months of training that (2)..... undergo, our passengers will be ready for (3)..... within two days. To prepare for a truly out-of-this-world experience, passengers will spend two days in our special training facility. There the passengers will be able to experience zero gravity in a special (4).....; this will allow the passengers to acclimatise. During the flight itself a rocket will propel the spacecraft into suborbital space in excess of 100,000 m above the Earth's (5)..... . This will allow the passengers to experience (6)..... . Our space (7)..... will be able to float around the cabin and view the Earth and (8)..... space for approximately ten minutes prior to re-entry and landing.

1.3 Read the text again and find words that match these definitions.


- | | |
|--|---|
| 1 an actual event | 5 drive something forwards |
| 2 go through an experience | 6 more than |
| 3 the force or pull from the Earth | 7 stay up in the air or in water |
| 4 get used to a change in conditions | 8 entering the Earth's atmosphere again |

1.4 Complete the sentences with words from the text. You will need to change the form of the words.

- 1 Some people believe that space e..... is a waste of money.
- 2 Climbing extremely high mountains is made all the more difficult because of the drop in a..... pressure.
- 3 Spacecrafts need to reach extremely high speeds in order to escape the g..... pull of the Earth.
- 4 Last year the astronauts u..... a series of mental and physical tests in order to qualify for the mission.
- 5 This computer program s..... extremes of weather so that pilots can experience difficult flying conditions.



The planets

- 2.1**  **10a** Listen to someone talking about the problems of forming colonies on other planets. Complete the table with **NO MORE THAN TWO WORDS** from the talk.

Error warning!

Earth is the name of our planet and has a capital letter, but the sun does not. We say the *Earth* but not ~~our earth~~. The **Earth** moves around the sun. We must take care of our planet. NOT ~~We must take care of our earth~~.

Planet	Physical features	Disadvantages
Venus	• same size as 1.....	• has no 2..... • covered in 3..... • constant 4.....
Mercury	• smaller than all other planets except 5.....	• has greatest range of temperatures of any planet in the 6.....
Saturn	• has many 7..... and 8.....	• much too hot

- 2.2**  **10a** Listen again and complete the sentences below.

- Venus is unusual because it in the opposite direction to other planets.
- The of Venus has many craters caused by asteroids.
- Mercury has no substantial
- Mercury does not have any water so cannot life.
- The Voyager space has provided us with pictures of Saturn's moons.
- The of Saturn is mainly gas.

- 2.3**  **WORD BUILDING** Complete the table.


Noun	Adjective
atmosphere	
	cosmic
	galactic
	gravitational
horizon	
	lunar
	meteoric
sun	
	stellar
	terrestrial
universe	

- 2.4** Complete the sentences with suitable words from the table in 2.3.

- The moon appears much bigger when it is close to the
- The Dog Star is the brightest star in our
- Many scientists believe that dinosaurs became extinct when a hit the Earth.
- A eclipse occurs when the moon is hidden by the sun.
- Many people wonder if there is intelligent life elsewhere in the
- The teacher told us to draw a line across the page.
- The most successful products in the world are those that have a appeal.
- energy is becoming more common nowadays.

Vocabulary note

The suffix *-ic* tells us that a word is an adjective. How many adjectives in 2.3 end in *-ic*? Other common examples are: *economic, scenic, tragic*.

- 3**  Read this news report and decide whether the following statements are true or false. Give a reason for each answer using one of the underlined words in the text. Then check the meaning of any of the underlined words you don't know and write them in your notebook.

In May 1973, the USA launched its first manned space station. The station, called Skylab, managed to carry three different crews of astronauts over a nine-month period, in spite of the fact that it lost a meteor shield on launch. In February 1974, the final crew returned to Earth and, for the next five and a half years, the Skylab continued to orbit the Earth, unmanned and unused. Its low orbit gradually pulled the 77-tonne Skylab down towards the Earth, making a crash landing inevitable and causing a great deal of concern around the world. On 11 July 1979 the Skylab eventually crashed into the southern ocean off Esperance, Australia. Fortunately the debris fell in mostly uninhabited areas and locals scrambled to collect a souvenir. A 17 year-old from Esperance flew to America to claim a \$10,000 reward for being the first to deliver a piece of the station to a newspaper. The local council of Esperance issued the USA with a \$400 fine for littering. It has never been paid. There are currently approximately 8,000 pieces of space junk floating above our heads thanks to the satellites, space shuttles and space stations out there. One example is a screwdriver lost during a space shuttle mission in 1985, which has never been recovered.

Statements	True/False	Reason
1 In late 1974 there were people on board the space station.	It was
2 The Skylab may have floated in space for ever.	A crash was
3 Very few people lived in the area where it landed.	The area was


- 4** Complete the essay using suitable words from this unit and add a suitable conclusion.

'Space belongs to whoever gets there first.' Do you agree or disagree with this view?

Most of (1) p..... Earth has already been mapped, so it is not surprising that explorers should turn their attention to other parts of the (2) u..... The planets in our (3) s..... s..... have become the next frontier to be conquered, but who governs the vast area of space above us?

Some people believe that arriving first is key. In the 1960s, the US and USSR spent large sums of money in their attempts to be the first to (4) l..... on the moon leading to a so-called (5) s..... race. However, none of us think that the moon 'belongs' to the US simply because they planted a flag there. Furthermore, there are now thousands of (6) s..... monitoring activities here on Earth, many of which are owned by big corporations, but this does not mean that they own the atmosphere above us. Therefore, arriving first is surely nothing more than a sign of wealth and technology.

There are other clear signs that no one 'owns' space. In the relatively short time that man has been travelling there, we have already left sufficient (7) d..... behind to show that we are as careless in (8) o..... space as we are on Earth. Broken equipment and shuttle parts have simply been left to (9) f..... in the atmosphere and pose a very real threat if they collide with our planet. Clearly, some form of control is needed. Although there is an international (10) s..... s....., its activities are limited to research. Perhaps we need go further and establish some extraterrestrial laws.

- 5**  **PRONUNCIATION** **10b** Each of the following words has a weak sound (ə) or schwa, e.g. about. Underline the schwa in each word, then listen and check your answers. Practise saying the words. There may be more than one schwa in each word or phrase.

astronaut atmosphere commercial explorer exploration galaxy
horizon horizontal outer satellite solar system sustain universal

Test practice

Listening Part 3

10c

Questions 1–4

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

Space exploration

- 1 John believes the main benefit of space exploration is
 - A finding resources for use on Earth.
 - B locating an alternative home for humans.
 - C discovering more about the origins of Earth.
- 2 What problem do John and Susan identify with sending robots into space?
 - A Their power supply is limited.
 - B They are too reliant on humans.
 - C Suitable robots would be too expensive.
- 3 What point does Susan make about space technology used in the 2000s?
 - A It was out dated.
 - B It was unreliable.
 - C It was inexpensive.
- 4 What do John and Susan say is the biggest problem for missions to deep space?
 - A the distance
 - B the lack of fuel
 - C the extreme temperatures

Questions 5–10

Choose TWO letters, **A–E**.

Questions 5 and 6

What **TWO THINGS** does John say about a mission to Mars?

- A We should start preparing for it now.
- B The ship could be ready sooner than expected.
- C We already have the technology.
- D It may take many years before it becomes a reality.
- E It is unlikely to be approved in the next 10 years.

Questions 9 and 10

What **TWO THINGS** do John and Susan say they would struggle with if they were going to Mars?

- A the lack of water
- B feelings of boredom
- C the lack of routine
- D the lack of greenery
- E dealing with rubbish

Questions 7 and 8

What **TWO POINTS** do John and Susan raise about living conditions on Mars?

- A The soil may be toxic.
- B Building would be impossible.
- C Materials would need to be taken there.
- D New types of metal may be discovered.
- E It could be rich in resources.

Test tip



Read through all of the information on the question paper before you start to listen. Circle or underline the most important words. Use the questions to help you follow the conversation.