

# 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).....**commercial**..... 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).....**astronauts**..... undergo, our passengers will be ready for (3).....**launch**..... 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).....**simulator**.....; 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).....**atmosphere**..... . This will allow the passengers to experience (6).....**weightlessness**..... . Our space (7).....**explorers**..... will be able to float around the cabin and view the Earth and (8).....**outer**..... 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 ..... <b>a reality</b> .....                      | 5 drive something forwards ..... <b>propel</b> .....                   |
| 2 go through an experience ..... <b>undergo</b> .....               | 6 more than ..... <b>excess</b> .....                                  |
| 3 the force or pull from the Earth ..... <b>atmosphere</b> .....    | 7 stay up in the air or in water ..... <b>float</b> .....              |
| 4 get used to a change in conditions ..... <b>acclimatise</b> ..... | 8 entering the Earth's atmosphere again<br>..... <b>re-entry</b> ..... |

#### 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**xploration**..... is a waste of money.
- 2 Climbing extremely high mountains is made all the more difficult because of the drop in a.....**atmospheric**..... pressure.
- 3 Spacecrafts need to reach extremely high speeds in order to escape the g.....**gravitational**..... pull of the Earth.
- 4 Last year the astronauts u**nderwent**..... a series of mental and physical tests in order to qualify for the mission.
- 5 This computer program s**imulates**..... 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.

Planet	Physical features	Disadvantages
Venus	• same size as 1..... <b>Earth</b> .....	• has no 2..... <b>oceans</b> ..... • covered in 3..... <b>cloud</b> ..... • constant 4..... <b>thunderstorms</b>
Mercury	• smaller than all other planets except 5..... <b>Pluton</b> .....	• has greatest range of temperatures of any planet in the 6..... <b>solar system</b>
Saturn	• has many 7..... <b>moons</b> ..... and 8..... <b>gas</b> .....	• much too hot

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

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

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

Noun	Adjective
atmosphere	<b>atmospheric</b>
<b>cosmos</b>	cosmic
<b>galaxy</b>	galactic
<b>gravity</b>	gravitational
horizon	<b>horizontal</b>
<b>moon</b>	lunar
<b>meteor</b>	meteoric
sun	<b>solar</b>
<b>star</b>	stellar
<b>Earth</b>	terrestrial
universe	<b>universal</b>

### 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.~~

- 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 .....**horizon**.....
- The North Star is the brightest star in our .....**galaxy**.....
- Many scientists believe that dinosaurs became extinct when a .....**meteor**..... hit the Earth.
- A .....**lunar**..... eclipse occurs when the moon is hidden by the sun.
- Many people wonder if there is intelligent life elsewhere in the .....**universe**.....
- The teacher told us to draw a .....**horizontal**..... line across the page.
- The most successful products in the world are those that have a .....**universal**..... appeal.
- .....**Solar**..... 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 text using suitable words from this unit.


**'Space belongs to whoever gets there first.' Do you agree with this statement?**

Most of (1) p..... Earth has already been mapped and explored, 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.

We all remember the so-called (4) s..... race of the 1960s when the US and USSR were each determined to be the first to (5) l..... on the moon. However, I do not believe that planting a flag on the moon gives anyone the right to claim it as theirs.

With the increasing use of (6) s..... to monitor activities here on Earth, as well as the very real prospect of space tourism, now is a good time to ask who owns or, more importantly, who governs the vast area of space above us? In the relatively short time that man has been travelling in space we have already left sufficient (7) d..... behind to show that we are as careless in our space travels as on Earth. The broken shuttle parts have simply been left to (8) f..... in the atmosphere and cause a very real threat to everyone here on Earth.

Clearly space belongs to all of us. Although there is an international (9) s..... s....., this is currently only involved in research. I think we need to act quickly to establish a set of international laws that govern (10) o..... space.

- 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 Section 3

10c

### Questions 1–4

Choose the correct answer **A**, **B** or **C**

- 1 According to John, what is the main advantage of space exploration?
  - A To supply resources for use on Earth.
  - B To find out more about the origins of our planet.
  - C To establish a colony for humans if Earth becomes uninhabitable.
- 2 According to the speakers, why can't robots be sent into space instead of humans?
  - A They cannot operate for long enough.
  - B They are too expensive to build.
  - C They are too reliant on humans.
- 3 What are we told about the space technology currently used?
  - A It can be unreliable.
  - B It is based on old technology.
  - C It is becoming cheaper to produce.
- 4 What is the biggest problem in sending robots to Mars?
  - A the distance
  - B the atmosphere
  - C the extreme temperatures

### Questions 5–10

Who expresses the following opinions?

- A John
  - B Susan
  - C Both John and Susan
- 5 We should plan a trip to Mars even though it may not happen soon. ....
  - 6 We may eventually colonise Mars. ....
  - 7 The soil on Mars is highly toxic. ....
  - 8 The soil on Mars contains materials we could use. ....
  - 9 Spaceships cannot be totally protected from radiation. ....
  - 10 It is possible that humans could form a base on Mars. ....

### 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.



# Test Two (Units 6–10)

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

- 1 People who are colour blind often can't ..... between red and green.  
**A** see                      **B** differ                      **C** tell                      **D** distinguish
- 2 Our car broke down twice on the way to the wedding. .... to say we arrived two hours late.  
**A** Needless                      **B** Pointless                      **C** Regardless                      **D** Worthless
- 3 I hope the lecturer wasn't referring ..... my assignment when he made that remark.  
**A** in                      **B** for                      **C** to                      **D** of
- 4 Languages ..... over time so dictionaries need to be regularly updated.  
**A** eliminate                      **B** evolve                      **C** establish                      **D** elicit
- 5 My teacher said my essay was ..... She said she couldn't follow my argument.  
**A** incompetent                      **B** inaccurate                      **C** incoherent                      **D** incisive
- 6 It's important to teach children not to ..... lies.  
**A** say                      **B** speak                      **C** talk                      **D** tell
- 7 These figures ..... a peak in 1982 when over 2 million new machines were sold.  
**A** got                      **B** increased                      **C** rose                      **D** reached
- 8 Air ..... is cheaper than other forms of long-distance transport in my country.  
**A** trip                      **B** journey                      **C** travel                      **D** travelling
- 9 A large number of houses were ..... by the storm.  
**A** affected                      **B** effected                      **C** influenced                      **D** involved
- 10 Many people believe that violent computer games can have a harmful ..... on children.  
**A** affect                      **B** effect                      **C** damage                      **D** involvement
- 11 The price of fresh fruit and vegetables ..... considerably throughout the whole year.  
~~**A** rises~~                      **B** peaks                      **C** fluctuates                      **D** decreases
- 12 The population of wild birds peaked ..... approximately 400,000 before falling rapidly.  
**A** at                      **B** for                      **C** in                      **D** of
- 13 My first job was to arrange the files into ..... order from the oldest to the most recent.  
~~**A** alphabetical~~                      **B** chronological                      **C** numerical                      **D** historical
- 14 The train whistle warned us of its ..... departure.  
**A** previous                      **B** imminent                      **C** subsequent                      **D** former

- 15 The majority of cave art was created in prehistoric .....  
**A** time      ~~**B** stage~~      **C** era      **D** times
- 16 Computer viruses are a modern-..... problem.  
**A** day      **B** era      **C** times      **D** time
- 17 I much prefer life in the twenty-first ..... to that of the Middle Ages.  
**A** age      **B** era      **C** years      **D** century
- 18 It can take ..... time for people to get used to a new system.  
**A** long      **B** a long      **C** so long      **D** too long
- 19 Many people are fascinated by the native ..... of Australia, especially koalas and kangaroos.  
**A** fauna      **B** flora      **C** agriculture      **D** vegetation
- 20 The mother bird carries food back to the nest in its .....  
**A** feather      **B** wing      **C** beak      **D** paw
- 21 We must try to protect ..... animals, otherwise when a species disappears the whole ecosystem is affected.  
**A** ecological      **B** endangered      **C** extinct      **D** exotic
- 22 I believe that farmers should be banned from using ..... near waterways.  
**A** crops      **B** contamination      **C** pollution      **D** pesticides
- 23 Zoos should try to re-create the animals' ..... habitat rather than keeping them in cages.  
**A** nature      **B** native      **C** natural      **D** naturalist
- 24 A plant is only as healthy as the ..... it grows in.  
**A** habitat      **B** water      **C** soil      **D** vegetation
- 25 It must have been amazing to be the first astronauts ..... space.  
**A** in      ~~**B** of~~      **C** up      **D** to
- 26 I think we should spend more money taking care of our own .....  
**A** Earth      **B** atmosphere      **C** planet      **D** stars
- 27 I think we should spend more on space .....  
**A** explore      **B** explorer      **C** expansion      **D** exploration
- 28 Navigation around the globe is a lot simpler thanks to the information we receive from .....  
**A** satellites      **B** stations      **C** systems      **D** shuttles
- 29 I don't think we will ever find another planet that can ..... life.  
**A** suspend      **B** survive      **C** supply      **D** sustain
- 30 I imagine astronauts spend a lot of time thinking about life ..... Earth.  
**A** in      **B** of      **C** down      **D** on