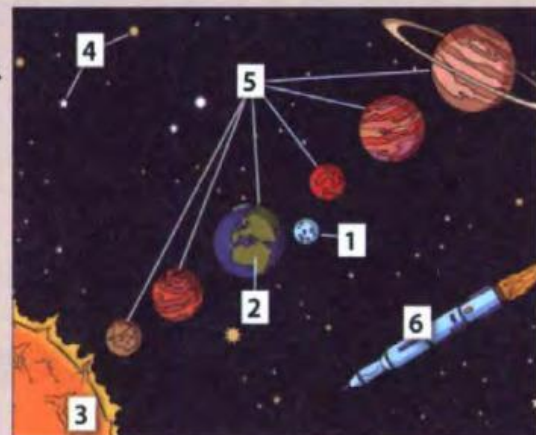


14 The universe and science

A The universe

- The **moon**¹ is a **satellite** of the **earth**²; **in other words**, it **circles** around the earth. This takes **approximately** 28 days.
- The earth **revolves** around the sun every 365 days.
- The **sun**³ is a star, but seems much larger than other **stars**⁴ because it is so close to the earth. Light from the sun takes approximately 8 minutes to **reach** the earth.
- 9 **planets**⁵ revolve around the sun. We call the sun and all its planets the **solar system**.
- 100 years ago, sending **rockets**⁶ into **space** seemed **incredible**, but now it is a fact of life and we have learned **a great deal** about the **universe** since then.



GLOSSARY

satellite	an object that moves round a bigger object in space	reach	arrive somewhere
in other words	used for saying sth in a different way	space [U]	the area beyond the earth round the planets and stars
circle	go round sth in a circle SYN revolve (around sth)	incredible	difficult to believe
approximately	about, more or less SYN roughly	a great deal	a lot SYN a good deal
		universe	the whole of space and everything in it, including the planets and stars

1 One word is wrong in each sentence. Cross it out and write the correct word.

- | | |
|---|---|
| ▶ The sun circles the earth. <u>moon</u> | 5 Mars is a star. _____ |
| 1 The planets are in the solar space. _____ | 6 We can send planes into space. _____ |
| 2 The earth revolves around the moon. _____ | 7 We've learned a big deal about space. _____ |
| 3 The sun is a planet. _____ | 8 The world is the whole of space and everything in it. _____ |
| 4 Man first walked on the sun in 1969. _____ | |

2 Complete the sentences.

- ▶ There are billions of stars in the universe.
- 1 Is it important to send rockets into _____?
 - 2 Mars, Jupiter and Venus are all _____.
 - 3 As far as we know, all human life lives on _____.
 - 4 For many people, the idea of human life in other parts of the universe is _____.
 - 5 It takes rockets _____ 260 days to _____ Mars.
 - 6 The earth _____ around the sun every 365 days.
 - 7 One of the _____ crashed when it landed.
 - 8 The moon is a _____ of the earth.
 - 9 The sun and all its planets are known as the _____ system.
 - 10 We still don't know a great _____ about life on other planets.
 - 11 The earth revolves around the sun: in other _____, the earth is a planet in our solar system.

3 Cover the text and glossary. Look at the picture. Name five things you can see.

- ▶ Mars _____
- _____
- _____



TEST YOURSELF

B Scientific exploration

Why go to Mars?

Scientists have already sent **spacecraft**, including **satellites**, to **explore** the surface of Mars, and **carried out experiments** to see if they can **discover** any signs of life. **So far**, they haven't found any, but an **analysis** of the **solid rocks** brought back from Mars has **confirmed** that they were created by the presence of water and wind, so perhaps life could have **existed previously** on the planet.

SPOTLIGHT *discover or invent?*

If you **discover** something, you learn about or find something for the first time. **discovery** *n*

If you **invent** something, you create something that didn't exist before. **invention** *n*

- They've **discovered** a new plant.
- Who **invented** the telescope?

GLOSSARY

scientist	a person who studies the physical world science <i>n</i> scientific <i>adj</i>
spacecraft	a vehicle that travels into space, e.g. a rocket
satellite	electronic equipment that is sent into space and moves around a planet
explore	travel round a place in order to learn about it exploration <i>n</i>
carry out sth	do and complete a task
experiment	a scientific test in order to learn/find out sth
so far	up to now
analysis	the careful study of sth in order to explain it analyse <i>v</i>
solid	with no holes or spaces inside: solid rock
confirm	say or show that sth is true or definite confirmation <i>n</i>
exist	If sth exists , it is present in the real world. existence <i>n</i>
previously	in a way that happened before or earlier

4 Circle the correct word.

- ▶ There was an experiment / *exploration* to test the levels of sugar in the blood.
- 1 These animals only *explore* / *exist* in South America – nowhere else.
- 2 They're going to *explore* / *analyse* the area to see what they can find.
- 3 The *discovery* / *invention* of the electric light bulb changed people's lives.
- 4 Scientists have *carried out* / *confirmed* experiments on animals.
- 5 Who *invented* / *discovered* the ancient city of Machu Pichu in Peru?
- 6 We've got the information, so now we need to *analyse* / *explore* it.

5 Complete the sentences using the correct form of the word on the right.

- ▶ Television was an incredible invention. INVENT
- 1 There's a report from a group of SCIENCE
- 2 The of penicillin was of major importance. DISCOVER
- 3 We're waiting for of the results. CONFIRM
- 4 They will the findings in the laboratory. ANALYSIS
- 5 The 60s and 70s were an exciting period for space EXPLORE
- 6 Humans are always looking for the of new life forms. EXIST

6 Complete the words in the sentences.

- ▶ Who discovered the planet Venus?
- 1 At the moment there is no evidence that life e..... on Mars.
- 2 They left camp and went to e..... the countryside to see what they could find.
- 3 With the use of s....., TV can show news from anywhere in the world.
- 4 Doctors believe they will have to c..... o..... further experiments with the drug.
- 5 We have analysed the s..... rocks brought back from the planet, but s.....
f..... we haven't found anything interesting.
- 6 Scientists have now c..... that climate change is really happening.
- 7 We are still waiting for an a..... of the results before we reach a conclusion.
- 8 There is now s..... evidence that the ice cap is getting smaller.
- 9 Do you know if life existed p..... on other planets in the solar system?
- 10 Scientists are developing a s..... which will take paying passengers to the moon and back.



TEST YOURSELF