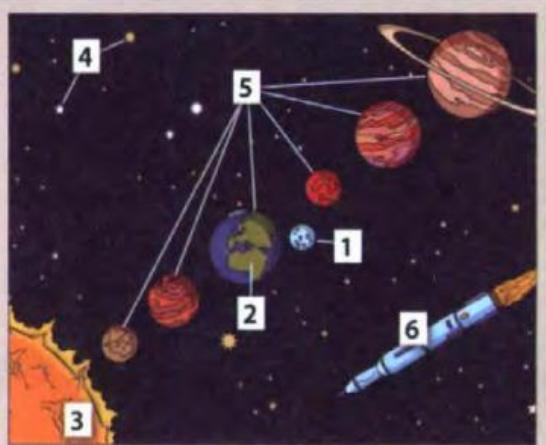


14 The universe and science

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.	moon	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
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
solid	with no holes or spaces inside: solid rock
confirm	say or show that sth is true or definite
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