1 How much do you know about the Universe? Answer the questions.

1 What was the Big Bang?

- ☐ An asteroid hitting something
- ☐ Matter expanding
- ☐ A star being born
- ☐ A volcano erupting

2 Number these things in order of size (big to small):

- ☐ planet
- ☐ galaxy
- ☐ solar system
- ☐ universe

3 Tick ☑ all the places that astronauts have visited in our Solar System so far:

- ☐ the Sun
- ☐ the Moon
- ☐ the orbit around the Earth
- ☐ Mars
- ☐ Mercury

4 Which of these could you find in space?

- ☐ black hole
- ☐ light matter
- ☐ red hole
- ☐ white energy

5 Scientists think that the Earth is in the perfect position for life, but what is it called?

- ☐ The Cinderella Zone
- ☐ The Goldilocks Zone
- ☐ The Snow White Zone
- ☐ The Sleeping Beauty Zone

6 Which of these statements is true about the Universe?

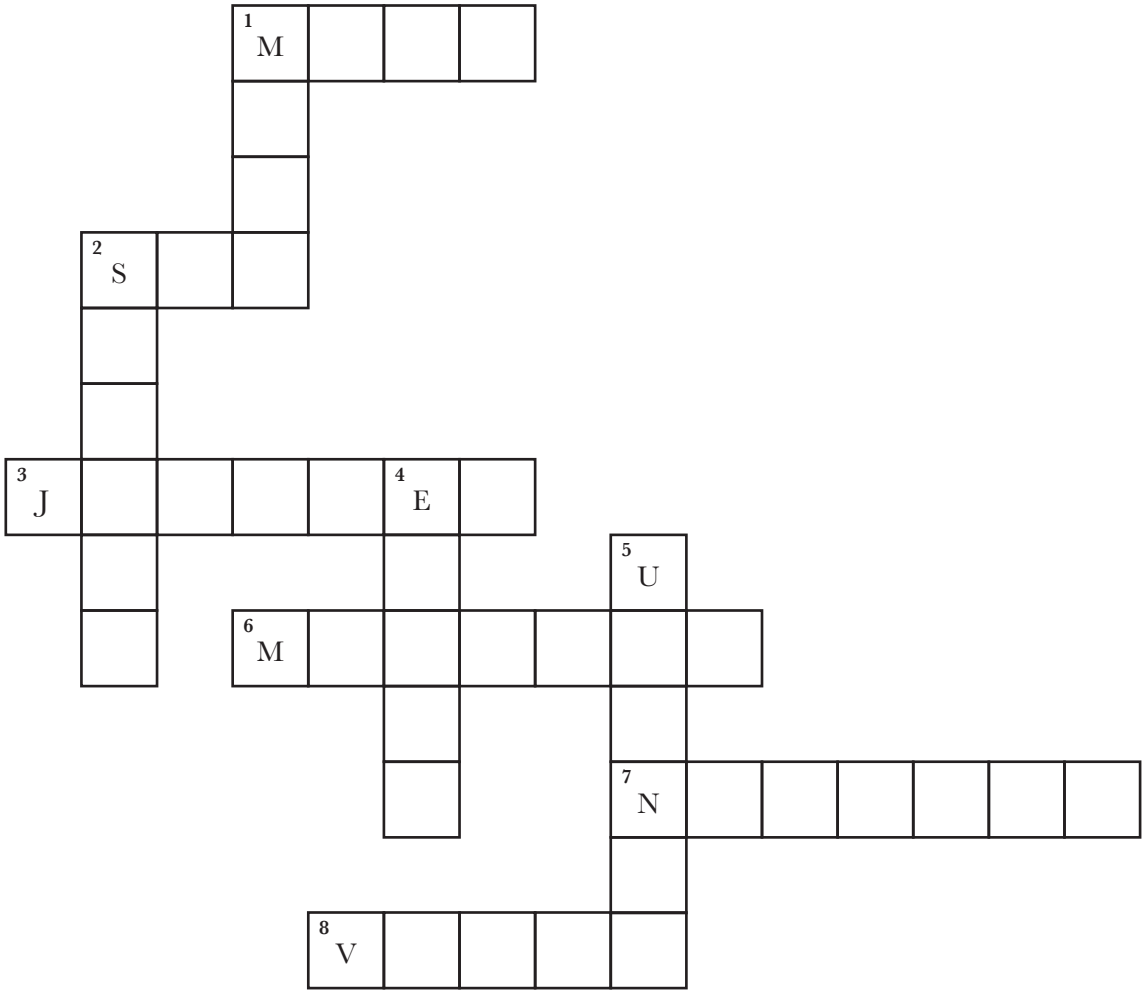
- ☐ It is getting bigger more quickly than we thought.
- ☐ It is getting bigger more slowly than we thought.
- ☐ It is getting smaller more quickly than we thought.
- ☐ It is getting smaller more slowly than we thought.

2 Complete the table with the missing information.

a new telescope a measure for force a space probe the way that things move
a space telescope how time-travel could work special theory of relativity
the further away a galaxy is from the Solar System, the faster it travels the Law of Gravitation

Scientist	Theory/thing developed	What it explains	Things named after them
Galileo Galilei	1	That not everything in the Solar System goes around the Earth.	2 .....
Isaac Newton	the Laws of Motion 3	4 ..... How everything in the Universe attracts other things through the force of gravity.	5 .....
Albert Einstein	6 ..... general theory of relativity	That nothing can travel faster than the speed of light. 7	
Edward Hubble	Hubble's Law	8	9 .....

3 **Do the crossword about our Solar System.**



Across

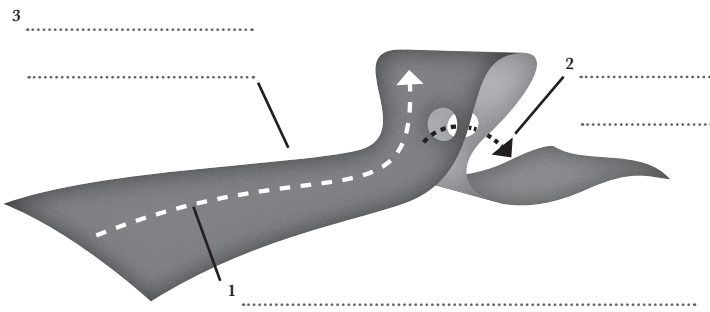
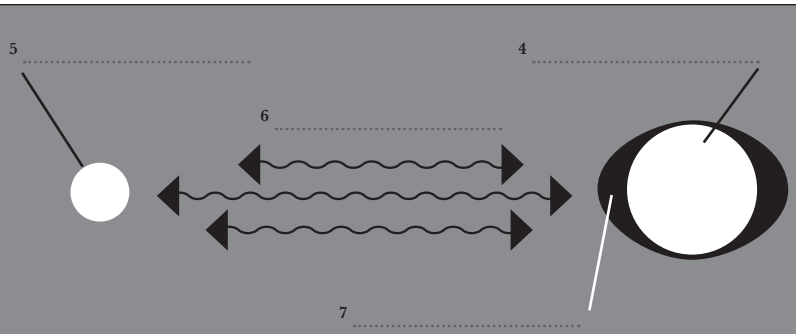
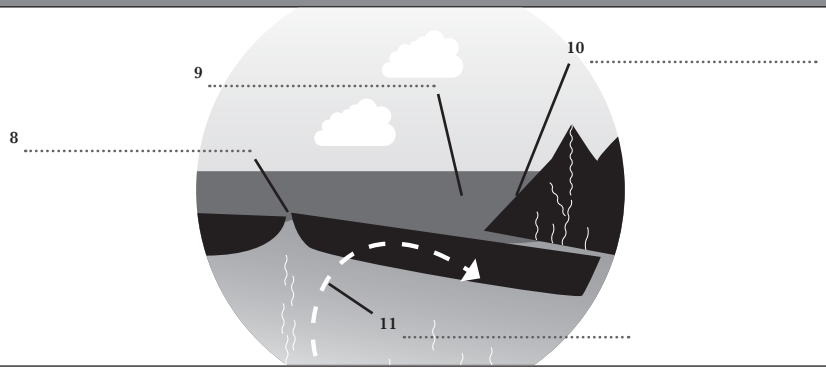
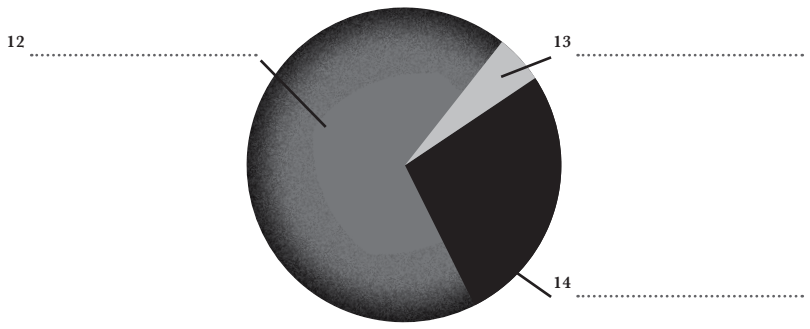
1 Between its core and its red crust is a thick layer of rocks and a very thin atmosphere.
2 During the daytime, it is the nearest and the most important star in our daily lives.
3 It is a gas giant with lots of moons and very fast winds.
6 It is the smallest planet in our Solar System and the closest to the Sun.
7 It is an ice giant, which looks blue because of the methane gas in its atmosphere.
8 It is the hottest planet in our Solar System and a day is longer than a year there.

Down

1 It is a natural satellite of the Earth, but it is much smaller and has less gravity than it.
2 It is a gas giant with some amazing rings around it made of ice and rock dust.
4 It is a rock planet and the only planet with water and life on it.
5 It has the coldest atmosphere in the Solar System and it seems to be lying on its side.

4a Label the diagrams with words from the box. Then write a short description of each one.

dark energy	atoms	ocean	Moon	conventional time travel
dark matter	potential time travel		Earth	gravity	the tide
heat	the space–time continuum		hot spot	mantle currents

Diagram	Description
	
	
	
	

4b **Write some notes about one of the diagrams in 4a. Explain it to a partner in your own words.**

5 **Circle the correct words and then answer the questions.**

1 Which Polish **astronomer** / **astronomy** showed that the Earth and other planets orbited the Sun in the 16th century?

.....

2 What is the average **diameter** / **distance** from the Earth to the Sun?

.....

3 What do we call a star that **expands** / **explodes** and becomes very bright?

.....

4 What is the furthest place a **space probe** / **spaceship** without astronauts has travelled and landed?

.....

5 Where would your **mass** / **weight** be heavier because of gravity: on the Moon or on Jupiter?

.....

6 What would help us lower the greenhouse gases in our **atmosphere** / **climate**?

.....

6 **You are an astronomer and you have been asked to write a message to any aliens out in space describing the Earth. In your letter, you should give information about:**

- size and position
- people and other animals
- problems and plans
- climate and geography
- plants and food
- important things about life on the Earth

Dear aliens,

7 **Stand outside in a garden or a park on a clear night and observe what you can see. Write a report about it and present it in class. You can look on the NASA or ESA websites for help in naming the things you can see.**