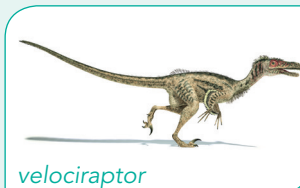


## The world of science

### 1 Work with a partner. Read the news story and look at the picture. Then answer the questions.

- 1 Why is the discovery of this creature significant?
- 2 How do you think scientists know this information from a fossil?
- 3 Why is it important that scientists continue their research to make discoveries like this?



velociraptor

A fossil of the largest dinosaur with wings was recently discovered in north-east China by a team of scientists from the University of Edinburgh in Scotland and the Chinese Academy of Geological Sciences. It's about 125 million years old and two metres tall, and is similar to the velociraptor dinosaurs of the time. Its large body means it was unlikely that it could fly. The discovery shows that this was a land creature experimenting with flight, and so it was very likely the time when birds were beginning to evolve.



### 2a Read about some of the latest discoveries and achievements in the world of science. Which is the most interesting or significant for you? Why?



## New scientific discoveries and achievements



### Technology and transport

In Japan, the Maglev train recently

broke the world speed record by travelling at 603 km an hour. That's nearly double the speed of the *Shinkansen*, the country's bullet train! Maglev means 'magnetic levitation' and it refers to vehicles that move without touching the ground. The Maglev train hovers 10 cm above its rail tracks using electrically-charged magnets to create lift, and this allows the train to travel at very high speeds. But passengers can't experience the fastest train in the world just yet. It won't start operating commercially until 2027 when it will connect Tokyo and Nagoya in 40 minutes, at a speed of 500 km per hour for the 286 km distance.



Solar Impulse 2 is a solar-powered aircraft that is designed to

circumnavigate the globe using solar power only. The project was born in Switzerland and is operated by a Swiss engineer and pilot, and their latest around-the-world attempt has been their greatest achievement to date. They set a new world record for the longest solo flight between Japan and Hawaii without stopping – 117 hours and 52 minutes, covering a distance of 7,212 km over five days and nights.

### Space

Scientists at the California Institute of Technology in the US have found evidence of a ninth planet in our solar system. It is a planet larger than Earth and is located far beyond the dwarf

planet of Pluto, which means it is very far away. In fact, Planet Nine is so distant that it would probably take between 10,000 and 20,000 years to orbit the sun. Earth takes just one year by comparison.

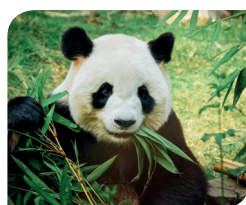
There is now more proof than ever that water exists in liquid form on Mars. NASA, America's space agency, has a spacecraft orbiting the planet and it has identified marks in canyons and craters that are believed to be formed by water in the warmer months. This important discovery could mean that there is life on Mars after all!



the solar system

### Medical

In Canada, scientists have developed a vaccine to protect against the Ebola virus disease. The biggest ever Ebola epidemic began in 2014 in Guinea, West Africa. It quickly spread around the world and more than 11,000 deaths have been reported. But tests of the new vaccine on 4,000 people in Guinea show results to be 100% successful, which is a significant scientific breakthrough.



### Environment and the natural world

Good news for the giant panda, an animal classified as an endangered species. China reports that numbers in the wild have increased by 17% in the last decade from fewer than 268 to 1,864. This is thanks to several successful conservation actions by the Chinese government, such as protecting the panda's habitat.

According to a new study in Germany, global warming is delaying the next ice age. The natural cycle of our planet means that another ice age is due in about 50,000 years, but this is now more likely to be in 100,000 years because of the carbon emissions that humans are putting into the atmosphere by burning coal, oil and gas. Ice ages have shaped our global environment over time and polluting our planet is leading to a change in its evolution.

**2b Read the texts again. Then read and match the sentence halves.**

- |   |       |  |
|---|-------|--|
| 1 In the next decade,                               | ..... | a is thought to take thousands of years to complete an orbit of the sun.     |
| 2 The new planet discovered by scientists in the US | ..... | b prove a significant breakthrough for medical science.                      |
| 3 A German research institute believes that         | ..... | c there has been a rise in numbers for this particular endangered species.   |
| 4 Tests on 4,000 people in a West African country   | ..... | d the fastest train in the world should be ready for passenger use in Japan. |
| 5 A Swiss project is soon set to orbit              | ..... | e we are changing the evolution of our planet.                               |
| 6 In the last decade,                               | ..... | f the entire globe without the use of fuel.                                  |

**2c Write the correct numbers to answer the questions.**

- How many giant pandas were thought to be in the wild in China ten years ago? .....
- How long did it take *Solar Impulse 2* to achieve its new world record? .....
- What is the distance between Tokyo and Nagoya? .....
- How successful is the new Ebola vaccine? .....
- When do scientists predict the next ice age is due? .....
- How far above the tracks does the Maglev train travel? .....

**2d Read the statements and write D (discovery) or A (achievement).**

- Solar Impulse 2* set a new world record when it flew 7,212 km non-stop between Japan and Hawaii. ....
- NASA scientists have found evidence of water on the planet Mars. ....
- The new Ebola vaccine is a major success in the medical world, thanks to the work of scientists in Canada. ....
- Research in Germany shows that the human impact of burning fossil fuels will probably delay the next ice age. ....
- The Chinese government has taken several measures in recent years to ensure the conservation of the giant panda. ....
- The Japanese Maglev train is considered the fastest in the world after it recently broke the world speed record. ....

**Speaking****3a Work with a partner and discuss the questions.**

- Do you know of any recent scientific discoveries or achievements in your country? If so, what are they?
- Do you know of any scientific discoveries or achievements that your country has made in the past? If so, what are they?

**PROJECT**

**3b You are going to make a poster to show a selection of scientific discoveries and achievements in your country and a country of your choice. You should find out about discoveries and achievements in different areas of science, e.g. medicine, technology, etc. Read the questions and prepare your project research.**

- Work in small groups. Decide on which country you are going to research, as well as your own. Do some research on the Internet to find out the following information:
  - what some of the major scientific discoveries and achievements are (either recent or in the past)
  - who discovered or achieved these things, and why
  - how the discovery or achievement helps or has helped science
  - categorise the discovery or achievement into an area of science, e.g. medicine, technology, etc.
  - any other information you think is valuable.
- In your groups, prepare your poster using the information you have gathered. Categorise the scientific discoveries and achievements and write a description of each using your notes. Illustrate them or provide photos where necessary.

**3c Display your poster in the classroom. Move around and read the information from the other groups. Discuss the interesting discoveries and achievements.**