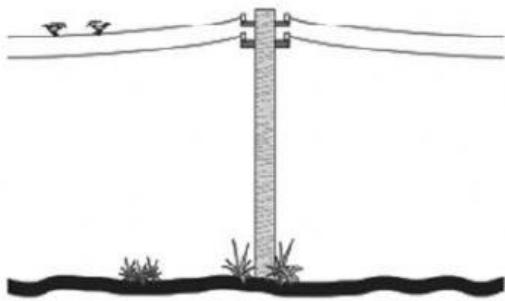


## Group feedback

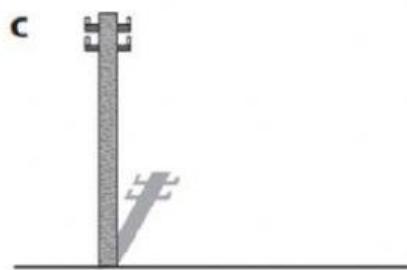
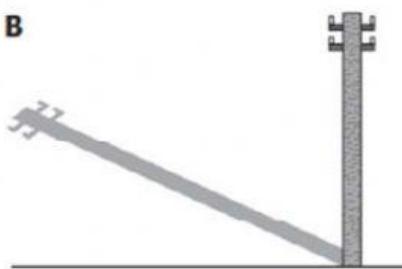
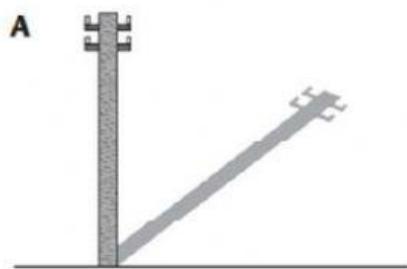
When you look at the Sun, you can imagine it rising in the east on your left and setting in the west on your right. That is because you are facing south.

Now imagine you are standing with the Sun behind you, looking at a telegraph pole. The diagram shows this.



The telegraph pole will cast different shadows, depending on the time of day. The diagrams A to D show four different shadows you could see when standing with your back to the Sun.

**Q1** Think about where the Sun is. Mark 'east' and 'west' on the diagrams A to D below.



**Q2** For each of the diagrams A to D, write down what time of day it is. Choose from this list.

early morning

just before midday

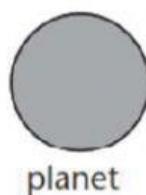
midday

just after midday

mid-afternoon

late evening

**1** Match the words to the descriptions.



The Sun is one of these. They are luminous objects.

The path an object takes around the Sun or a planet.

This is at the centre of the Solar System.

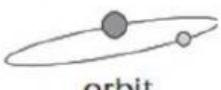
Large lumps of rock orbiting the Sun between Mars and Jupiter.

These travel in orbits around the planets.

The Earth is one. Nine of them go round the Sun.



stars



orbit



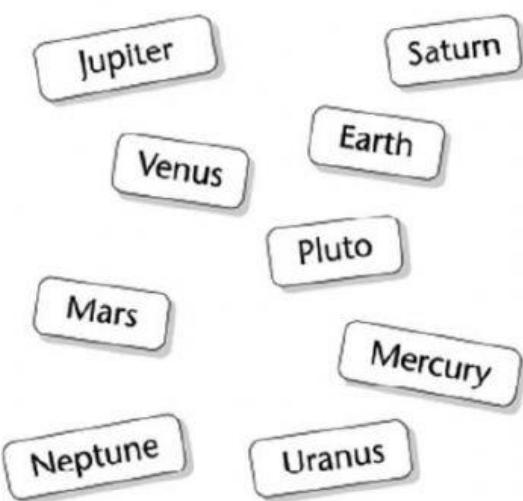
asteroids

**2** Here is sentence to help you remember the planets in the right order. The first planet is closest to the Sun.

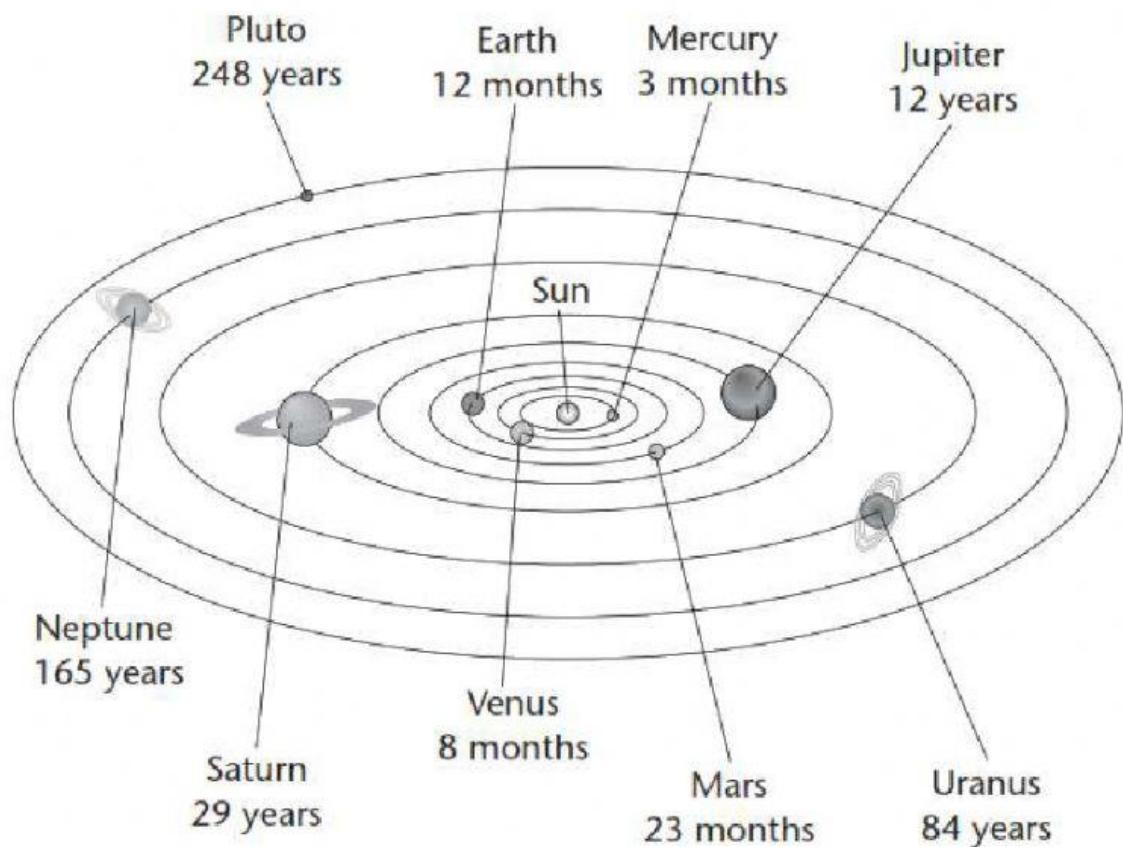
**M**y **V**ery **E**asy **M**ethod **J**ust **S**hows **U**p **N**ine **P**lanets

Write down the planets in the right order.

**M** .....  
**V** .....  
**E** .....  
**M** .....  
**J** .....  
**S** .....  
**U** .....  
**N** .....  
**P** .....



Look at this diagram of the Solar System. It shows the time each planet takes to orbit the Sun once.



- a** Which planet is closest to the Sun? .....
- b** Which planet is third furthest from the Sun? .....
- c** Which planet takes the longest to orbit the Sun once? ..  
Is this planet the closest or furthest from the Sun? .....
- d** Which planet is found between Jupiter and Uranus? ..  
How many years does it take to orbit the Sun? ..

**4** Here is a list of planets with their temperatures. Use this information to help you answer the questions.

**a** Write down the two warmest planets.

.....  
.....  
.....  
.....

Are they near to or far from the Sun?

**b** Write down the two coldest planets.

.....  
.....  
.....  
.....

Are they near to or far from the Sun?

**c** The surface of the Sun has a temperature of 5500 °C.

Is this hotter than or colder than the planets?

| <b>Planet</b> | <b>Temperature</b><br>in °C |
|---------------|-----------------------------|
| Mercury       | 427                         |
| Venus         | 480                         |
| Earth         | 22                          |
| Mars          | -23                         |
| Jupiter       | -150                        |
| Saturn        | -180                        |
| Uranus        | -214                        |
| Neptune       | -220                        |
| Pluto         | -230                        |

1 This table contains information about the sizes of the planets in the Solar System.

a Which planet is the biggest?  
.....

b Which planet is the smallest?  
.....

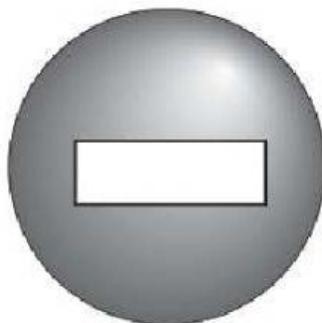
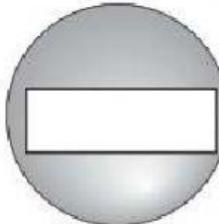
c Which planet is bigger than the Earth but smaller than Uranus?  
.....

d Which planet is bigger than Pluto but smaller than Venus?  
.....

| Planet  | Diameter<br>to nearest 1000 km |
|---------|--------------------------------|
| Mercury | 5000                           |
| Venus   | 12 000                         |
| Earth   | 13 000                         |
| Mars    | 7000                           |
| Jupiter | 143 000                        |
| Saturn  | 121 000                        |
| Uranus  | 51 000                         |
| Neptune | 50 000                         |
| Pluto   | 2000                           |

2 These different sized circles are the planets. They are in order of size. Write the name of the planet in each box.

Use the table to help you!



## Capture interest (1)

### Teacher sheet

#### 1 Which planet:

- has 18 moons
- is over 300 times heavier than the Earth
- has a red spot
- is the biggest planet?

#### 2 Which planet:

- is the hottest
- has an acid atmosphere
- is covered in cloud
- is named after a Roman goddess?

#### 3 Which planet:

- has a volume over 700 times bigger than the Earth
- has a solid rocky core, but is mainly made of gas
- would float in water
- has rings which can be seen using a telescope?

#### 4 Which planet:

- is called the blue planet
- has water on the surface in solid, liquid and gaseous forms
- has one moon
- is the only planet known to have carbon-based life-forms?

#### 5 Which planet:

- has white clouds of methane gas
- has a deep blue atmosphere
- has a great dark spot
- had its existence predicted mathematically from the effect it had on the orbit of Uranus?

#### 6 Which planet:

- was photographed by *Mariner 10*
- is a rocky, cratered planet
- has a year 88 days long
- is closest to the Sun?

#### 7 Which planet:

- is smaller than Earth
- has two moons
- is covered with red dust
- has been thought to have life by authors and scientists?

#### 8 Which planet:

- was the first to be discovered with a telescope, in 1781
- is a gas giant made mainly of hydrogen and helium
- is tilted so its axis of spin is almost horizontal
- has rings discovered by a spacecraft in 1977?

#### 9 Which planet:

- has a moon which is about half its size
- is the smallest planet
- has an orbit that is tilted compared to all the other planets
- is farthest from the Sun?