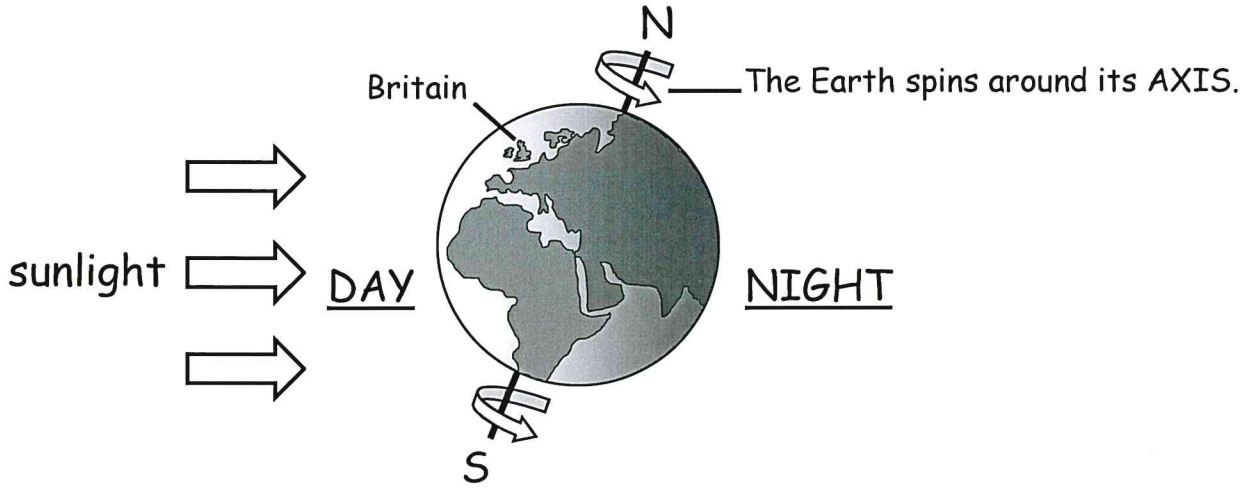
7 Physics Pack 1

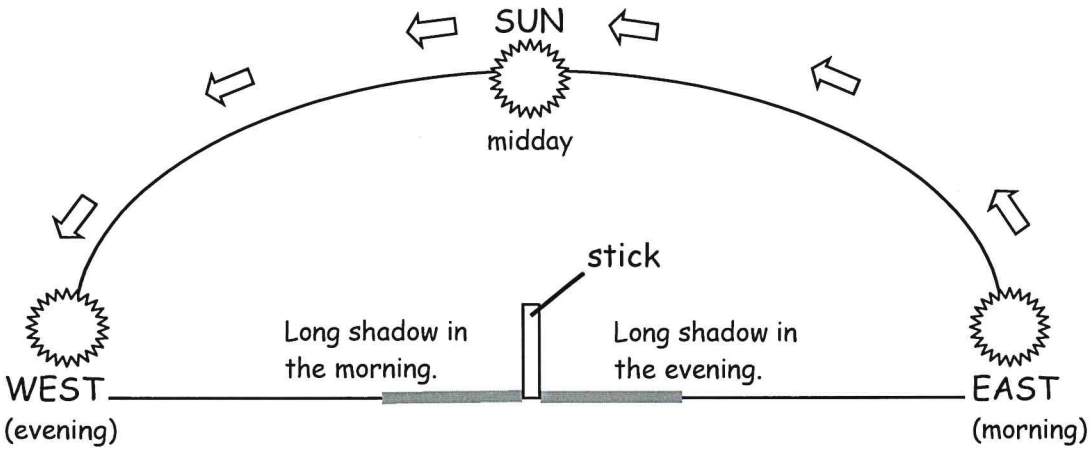
W.S.82. **Day and night.** Name .....

The Earth spins around an imaginary line called its AXIS. The axis runs from the North to the South pole. The Earth turns once every twenty four hours (one day). During the day we face towards the Sun and at night we face away from the Sun.



Sunrise and sunset.

The Sun and other stars APPEAR to slowly move across the sky because the Earth is turning. The sun rises in the EAST and sets in the WEST.



Exercise - Complete the sentences below.

1) The imaginary line that the Earth spins around is called its _ _ _ _

2) It takes one _ _ _ for the Earth to turn once.

3) During the day we face _ _ _ _ _ _ _ the Sun.

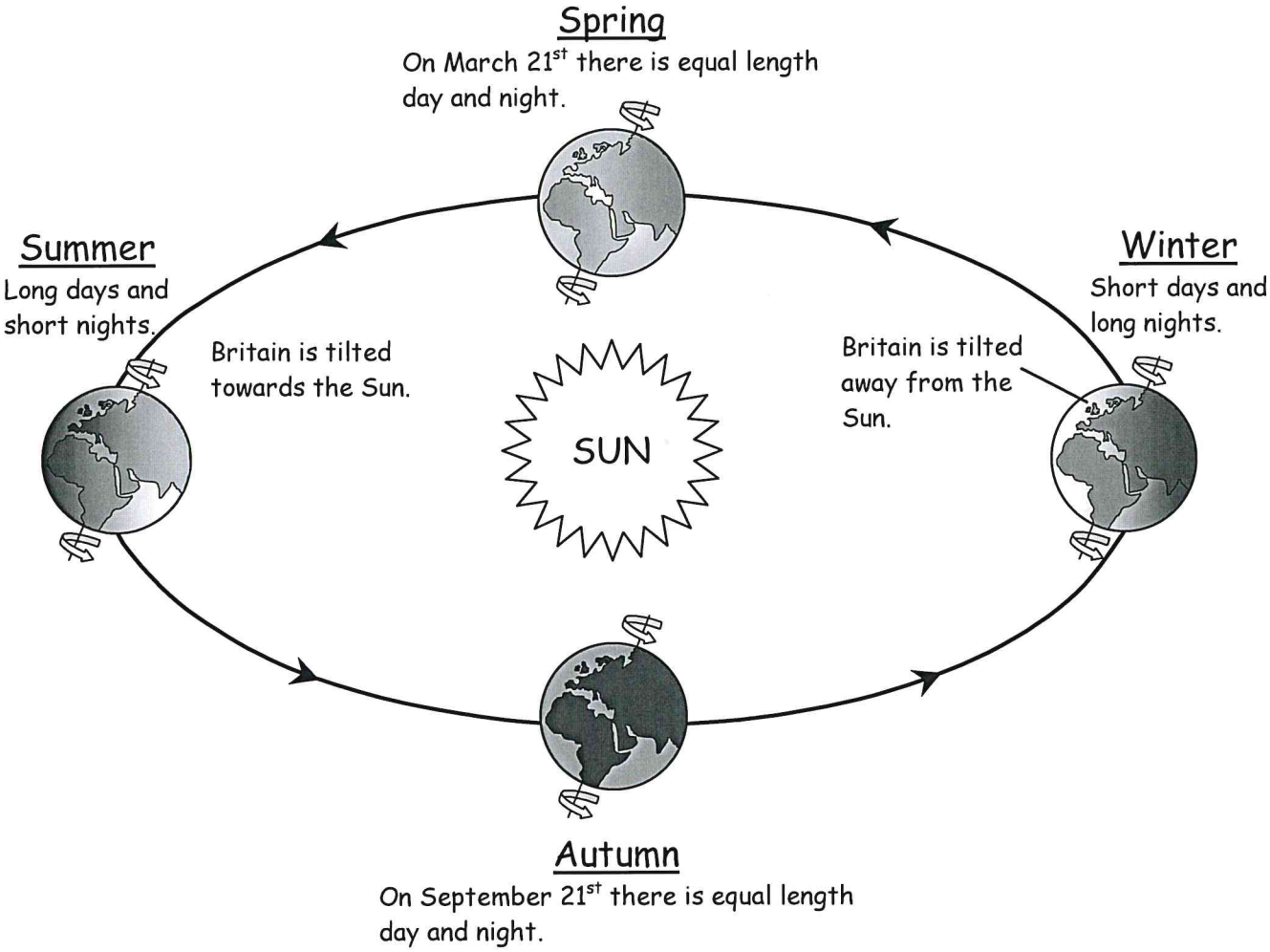
4) The Sun rises in the _ _ _ _ and sets in the _ _ _ _

5) Our shadows are longest in the _ _ _ _ _ _ _ and in the evening.

6) At _ _ _ _ _ _ the Sun is at its highest in the sky.

W.S.83. **The seasons.** Name .....

It takes 365 days and 6 hours for the Earth to complete one orbit of the Sun. We make one year 365 days but every four years we need to add on an extra day to make up for the six extra hours. This is why a LEAP year has 366 days.
During a year in Britain the weather gradually changes from warm Summer to cold Winter and back again. The different SEASONS are caused by the tilt of the Earth on its axis. The diagram below shows how this happens.



Exercise - Study the diagram above and then try to complete the sentences below.

1) One complete circle around the Sun is called an _ _ _ _ _

2) It takes one _ _ _ _ for the Earth to orbit the Sun.

3) In _ _ _ _ _ _ the Sun is at its highest in the sky.

4) In _ _ _ _ _ _ the Sun is at its lowest in the sky.

5) In Summer the Northern Hemisphere is tilted _ _ _ _ _ _ _ the Sun.

6) Australia is in the _ _ _ _ _ _ _ _ Hemisphere so in December it is their _ _ _ _ _ _

W.S.84. **The solar system.** Name .....

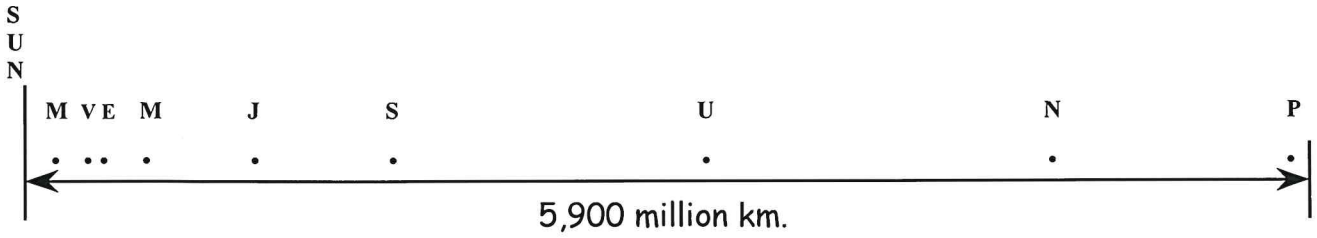
The Sun and other stars are sources of light. Planets orbit stars and do not make their own light. We can sometimes see the moon and some of the planets at night because they REFLECT light from the Sun. The SOLAR SYSTEM is our Sun together with the nine planets that orbit it. The order of the nine planets starting with the one closest to the Sun is :

Mercury Venus Earth Mars Jupiter Saturn Uranus Neptune Pluto

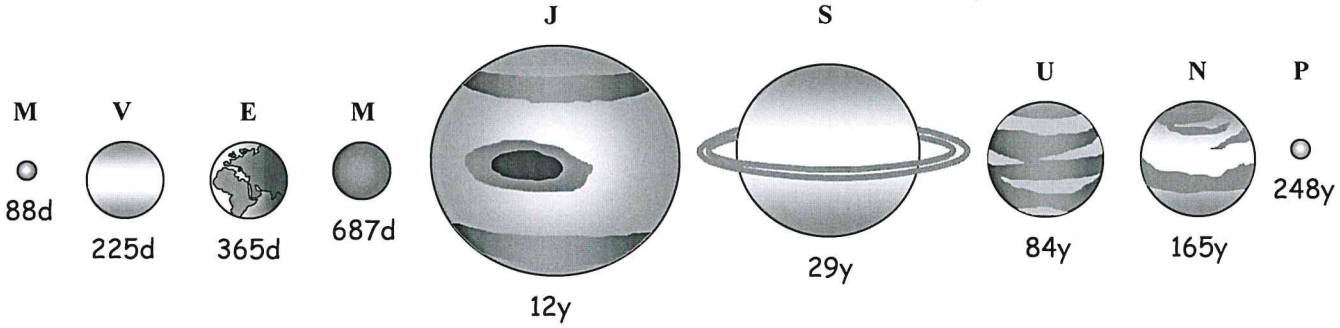
An easy way to remember the order of the planets is to remember this rhyme :

My Very Easy Method Just Speeds Up Naming Planets.

The diagram below gives an idea of how far the planets are from the Sun.



The diagram below shows how the planets compare in size. The length of each planet's year (orbit time) is also given underneath each one (d = days, y = years.)



THE FURTHER THE PLANET IS FROM THE SUN THE LONGER IT TAKES TO ORBIT.

Exercise - Complete the sentences below.

1) The planet that is closest to Earth is _ _ _ _ _

2) The largest planet is _ _ _ _ _ _ _

3) The further the planet is from the Sun the _ _ _ _ _ _ is its year.

4) The planet with a year about twice as long as Earth's is _ _ _ _

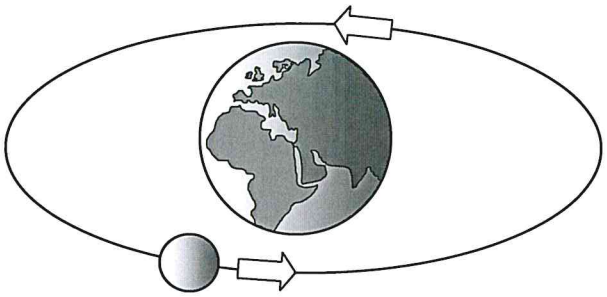
5) Planets that are close to the Sun have very _ _ _ _ temperatures.

6) The rings around _ _ _ _ _ _ are easily seen.

W.S.85. **Satellites.** Name .....

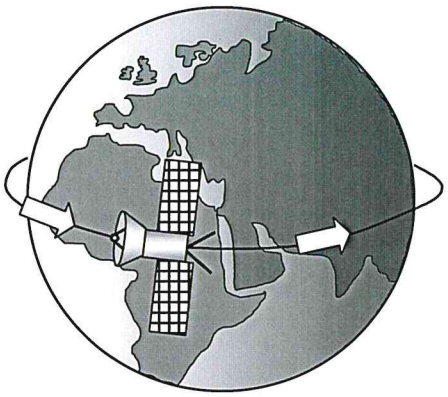
The planets are attracted towards the sun by an invisible force called GRAVITY. This is what keeps the planets in orbit. In the same way the Moon orbits the Earth because of the pull of gravity between them. Any object that travels around a planet in this way is called a SATELLITE. Humans have sent artificial satellites into space. These are very useful in several ways.

The Moon is our natural satellite.



The Moon travels anticlockwise around the Earth. It takes 27.3 days to complete one orbit. During this time the Moon changes from a full moon to nothing and then back to a full moon again. This happens because we only see the part of the Moon which reflects light from the Sun. The part that is in shadow does not show up. We see different amounts of the lit side as the Moon travels around the Earth. Early people used this cycle to keep track of the months.

Artificial satellites.



Artificial satellites have the following uses :

1. To observe and photograph the Earth.
2. To study weather systems.
3. To send radio and TV signals around the world.
4. To look deeper into Space. In Space there is no atmosphere (air) to cloud our view. The Hubble telescope is a satellite that has helped us to discover more about the Universe.

Exercise - Fill in the missing words in the passage below.

The Moon orbits the Earth because of the pull of ..... Any object that orbits the Earth is called a ..... The ..... is the Earth's natural satellite. It takes about twenty seven days for the Moon to complete one ..... During this time the Moon appears to change shape from a ..... moon to nothing and then back again.
If a satellite is given too much ..... it will escape into Space. If it has too little speed the force of gravity will pull it back down to ..... The Hubble ..... is a satellite that helps us to see much more clearly into Space. It can do this because in Space there is no ..... to block our view.

Earth full air speed telescope gravity Moon satellite orbit