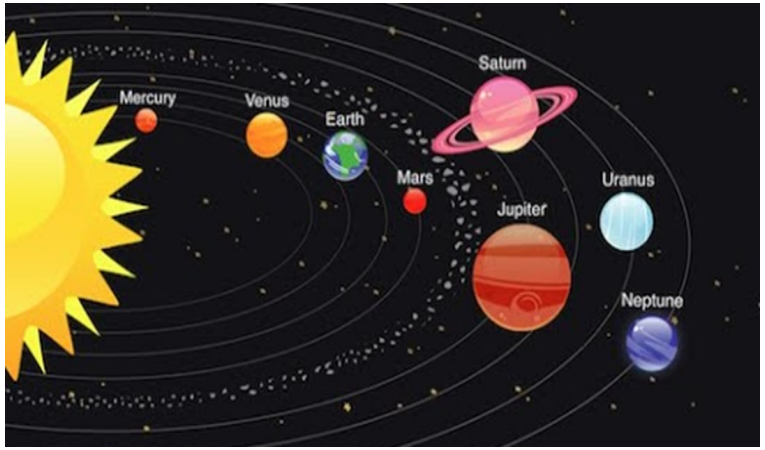
Year 5 Knowledge Organiser – How are the Earth and our moon part of the solar system and why do we have night and day?

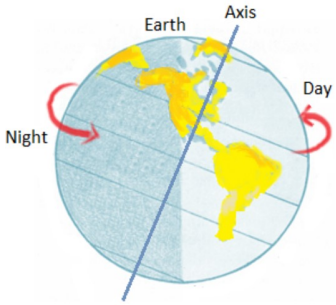
Day and night

The Earth spins on its axis. One spin takes 24 hours and this is the reason for night and day. As the Earth spins to face away from the Sun it is night and when it is facing the Sun it is daylight.

Because the Earth rotates on its axis the sun appears to move across the sky; in fact, it is the Earth moving. The Earth also orbits the Sun. One orbit takes 365 days (a year).



Solar system



Key Vocabulary	Definition
Asteroid	A small rocky body orbiting the sun
Axis	An imaginary line about which a body (e.g. a planet) rotates
Celestial	Positioned in or relating to the sky, or outer space as observed in the astronomy
Day	Twenty-four hour period, from one midnight to the next, corresponding to a rotation of the earth on its axis
Geocentric	Where people believed the earth was at the centre of the solar system
Heliocentric	Representing the sun as the centre of the solar system, the modern view of the solar system
Moon	the natural satellite of the earth, visible (chiefly at night) by reflected light from the sun
Night	The period from sunset to sunrise in each twenty-four hours
Orbit	The curved path in space that is followed by an object going round and round a planet, moon, or star.
Planet	A celestial body moving in orbit round a star
Rotate	The action of turning about an axis or centre (the Earth rotates on an axis)
Solar system	The collection of eight planets and their moons in orbit around the sun
Star	A fixed luminous point in the night sky which is a large, remote body like the sun
Sun	The star around which planets orbit

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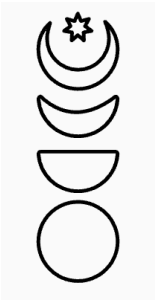
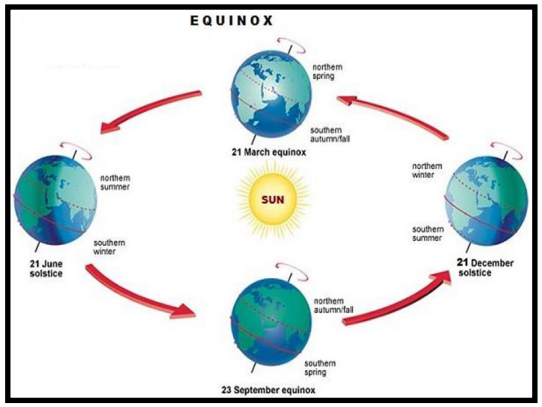
The Phases of the Moon



The Moon orbits the Earth. One orbit takes approximately a month (almost 28 days). We only see the part of the Moon that is lit by the sun which is why it appears to be different shapes at different times of the month. Here are the different phases of the moon:

Why do we have different seasons?

The tilt of the Earth's AXIS is the most important reason why **seasons** occur. **We have** hot summers and cold winters because of the tilt of the Earth's axis. The tilt of the Earth means the Earth will lean towards the Sun (Summer) or lean away from the Sun (Winter) 6 months later.



Time in different parts of the world

As the Earth rotates on its **axis**, the Sun only shines on the side of the Earth that it is facing. This means:

It is **daytime** for the parts of the Earth that have the Sun shining on them.

It is **night-time** for places that are on the opposite side of the Earth and are in the shade.

As it is night in some parts of the world while it is day in other parts, different places in the world use different times. This is why the world is divided into **24 different time zones**. One for each hour in a day.

Very large countries that are spread out across many time zones, such as Russia or the USA, are divided into separate time zones. Most smaller countries keep to the same time zone even if part of them falls outside a meridian line.