Earth and Space

Key Vocabulary	
astronomer	Someone who studies or is an expert is astronomy (space science)
axis	An imaginary line that a body rotates around. E.g Earth's axis (imaginary line) runs from the
moon	A natural satellite which orbits Earth and other planets.
orbit	To move in a regular, repeating curved path around another object.
planet	A large object, round or nearly round, that orbits a star.
satellites	Any object or body in space that orbits something else, for example: the Moon is a satellite of Earth.
sphere	A round 3D shape in the shape of a ball.
spherical bodies	Astronomical objects shape like spheres.
star	A giant ball of gas held together by its own gravity.
sun	A huge star that Earth and the other planets in our solar system orbit around.

Key Questions

- What makes Earth, Earth?
- How does the movement of the moon impact Earth?
- Why do we have day and night?
- Why does the sun move across the sky?

Key Knowledge

You will learn...

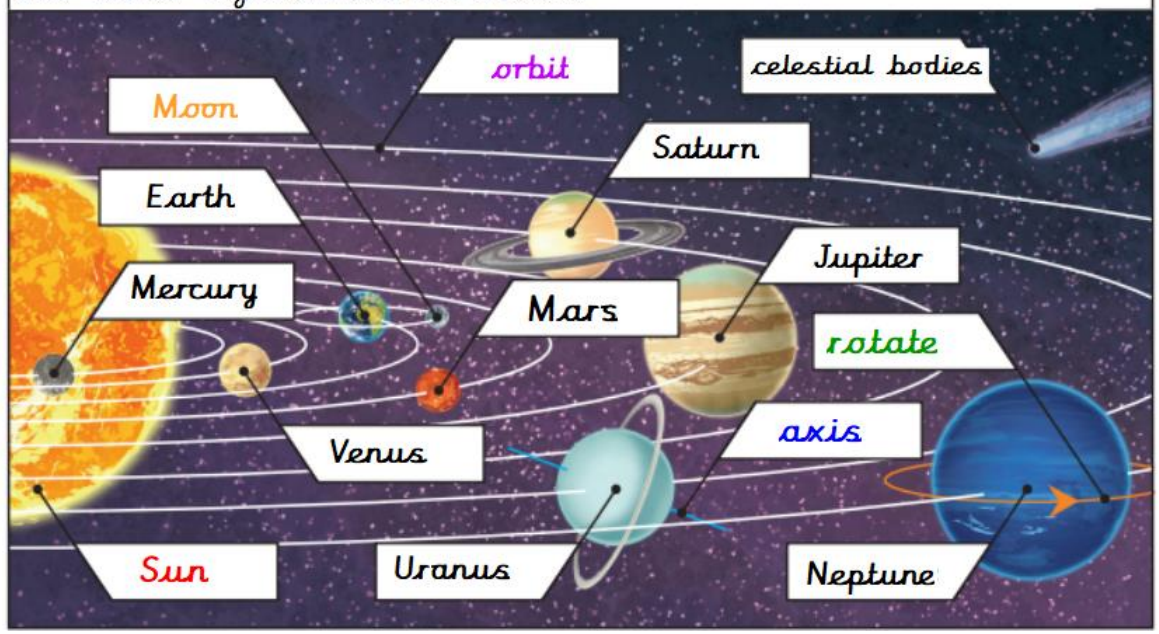
How to:

- describe the movement of the Earth and other planets relative to the sun in the solar system
- describe the movement of the moon relative to the Earth
- describe the sun, Earth and moon as approximately spherical bodies
- use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky

Key Knowledge

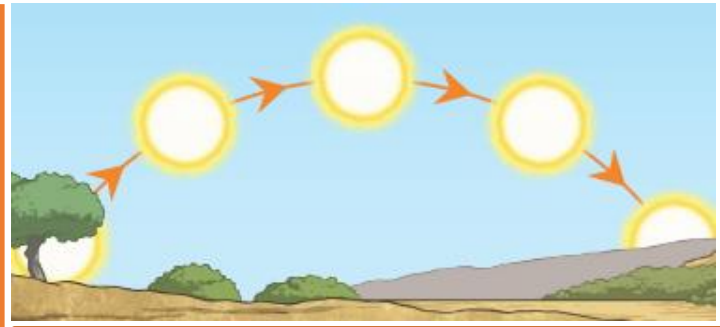
Mercury, Venus, Earth and Mars are rocky planets. They are mostly made up of metal and rock. Jupiter, Saturn, Uranus and Neptune are mostly made up of gases (helium and hydrogen) although they do have cores made of rock and metal.

Our Solar System (not to scale)



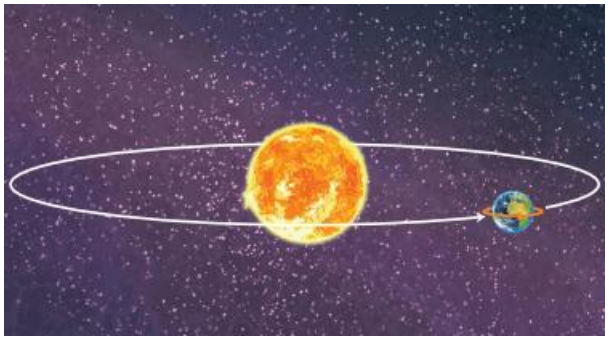
Pluto used to be considered a planet but was reclassified as a dwarf planet in 2006.

The Moon orbits Earth in an oval-shaped path while spinning its axis. At various times in a month, the Moon appears to be different shapes. This is because as the Moon rotates round Earth, the Sun lights up different parts of it.



It appears to us that the Sun moves across the sky during the day but the Sun does not move at all. It seems to us that the Sun moves because of the movements of Earth.

Earth rotates (spins) on its axis. It does a full rotation once in every 24 hours. At the same time that Earth is rotating, it is also orbiting (revolving) around the Sun. It takes a little more than 365 days to orbit the Sun. Daytime occurs when the side of Earth is facing towards the Sun. Night occurs when the side of Earth is facing away from the Sun.



The work and ideas of many astronomers (such as Copernicus and Kepler) combined over many years before the idea of the heliocentric model was developed. Galileo's work on gravity allowed astronomers to understand how planets stayed in orbit.