

Year 5 and 6 Science Knowledge Organiser – Earth & Space

What is the Solar System?

The sun is a **star**. It is at the centre of our **solar system**.

There are 8 **spherical planets**, which travel around the sun in elliptical **orbits**:

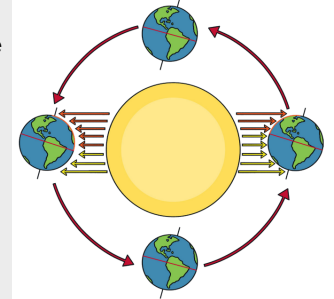
Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune



What happens when the Earth revolves around the sun?

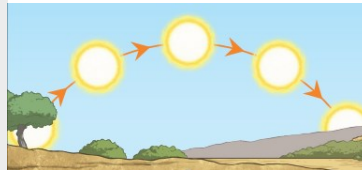
The movement of Earth around the sun contributes to the **seasons** in each **hemisphere**.

The intensity of the energy from the sun is lower when it is spread over a larger area due to the **tilt away** from the sun (winter) and higher when it is **tilted towards** the sun (summer).



What happens when the Earth rotates on its axis?

It appears that the sun moves across the sky during the day but this is only because the Earth **rotates** on its **axis** every 24 hours. This is why we have **day and night**.



Why do we see the moon as different shapes at night?

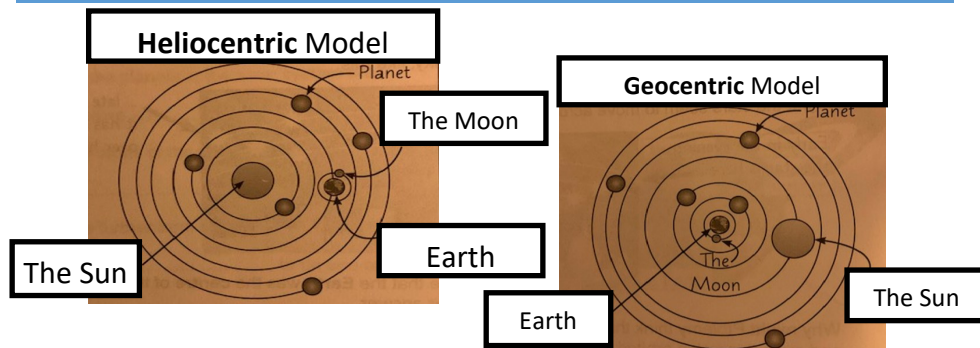
The moon rotates around the Earth every 28 days.

When the moon reflects light from the sun, we only see the part of the moon where light is reflected from.

This is why the moon seems to change shape.



How do the planets move in the Solar System?



How are the planets different from each other?

The first four planets are rocky, with solid surfaces and few or no moons:

Mercury: Smallest planet, closest to the sun,

Venus: Hottest planet, atmosphere of CO₂,

Earth: Sustains life due to water,

Mars: May have supported life 3.7 billion years ago.

Jupiter and Saturn are **gas giants**, made of helium and hydrogen with no solid surface and have many moons:

Jupiter: Largest planet, 79 moons

Saturn: Famous rings, 82 moons

Uranus and Neptune are **ice giants**, huge freezing planets far from the sun:

Uranus: The only planet with a horizontal axis.

Neptune: Furthest from the sun, takes 165 years to orbit the sun.

