Y5 Thinking like a Scientist– Earth and Space

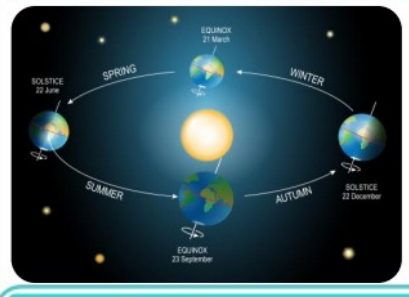
Key Knowledge:

The Solar System

Mercury
Venus
Earth
Mars
Jupiter
Saturn
Uranus
Neptune

Copernicus developed the heliocentric theory that the sun was at the centre of the solar system. The planets orbit the sun in a circular pattern. Each planet has its own characteristics and features. The four inner planets are the rocky terrestrial planets. The four outer planets are the gas giants.

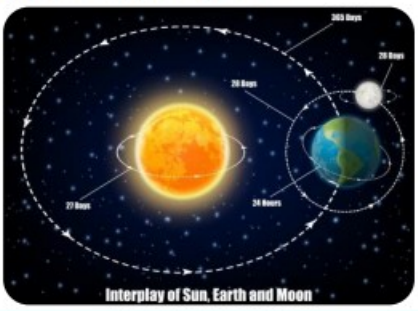
Moon Phases



The moon orbits Earth in an oval pattern whilst spinning on its axis. The sun illuminates the Moon. The shadow of the Earth creates the moon's phases.

Earth's movement

The Earth spins on its axis and completes a full rotation every 24 hours. The Earth is constantly rotating and orbiting the Sun - which takes 365 days. As the Earth rotates, it faces towards and away from the Sun. This creates the day and night cycle.



Interplay of Sun, Earth and Moon

The Sun

The Sun is a burning ball of gas which appears to move across the sky during the day. However, this movement is actually due to the Earth's orbit around the sun.

Learning Questions:

What are the defining features of each planet in our Solar System and how do they differ in their order from the Sun?

What can we learn about the solar system by comparing the geocentric and heliocentric models?

How does the Earth move and what are its effects on our planet today?

How does the Earth's rotation create day and night?

How does the Moon's movement around the Earth cause us to see different phases of the Moon?

What characteristics define a unique planet in our solar system?

Rocket Words

heliocentric	The modern model of the solar system, which places the Sun at the centre
geocentric	The old solar system model, which thought the Earth was at the centre.
solar system	The name for the Sun and all planets and objects that orbit it.
astronomy	The study of space, planets and the universe as a whole.
terrestrial planet	The name given to the four inner rocky planets - Mercury, Venus, Earth and Mars.
gas giants	The name given to the four outer planets - Jupiter, Saturn, Uranus and Neptune.
axis	The (imaginary) line which a planet rotates around and tilts on.
orbit	The path of a celestial object around another, such as Moon around the Earth.
moon	A body which orbits a planet; also called a natural satellite.
phase	The appearance of a Moon or planet, according to the amount of illumination.
waxing	the name given to Moon phases when the Moon is becoming brighter
waning	the name given to Moon phases when the Moon is becoming darker