

Year 5

Unit: Earth and Space

Intent:

- To understand that we have day and night because of the Earth's rotation.
- To understand the movement of the Earth and other planets in the Solar System.
- To understand the movement of the moon and how that differs from the Earth.

Prior learning

EYFS – Explore the natural world around us

EYFS – Describe what you see, hear and feel whilst outside.

Year 1 – Observe changes across the four seasons.

Year 1 – Observe and describe weather associated with the seasons and how day length varies.

Later learning (not in Year 5)

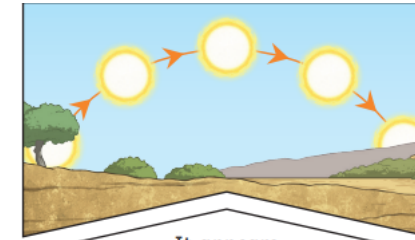
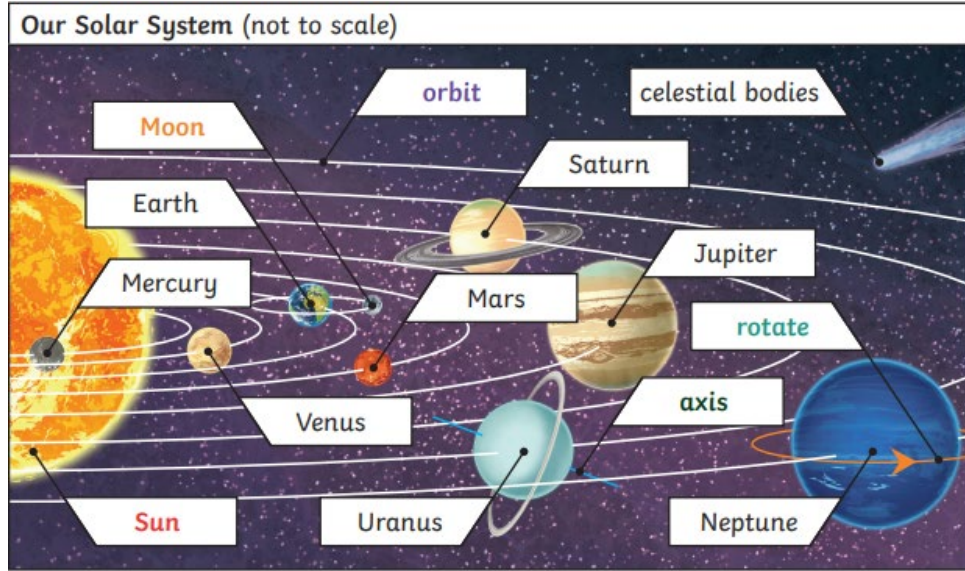
KS3 – Our Sun is a star and there are other stars in our galaxy.

KS3 – The seasons and the Earth's tilt, day length at different times of year, in different hemispheres.

KS3 – a light year is a unit of astronomical distance.

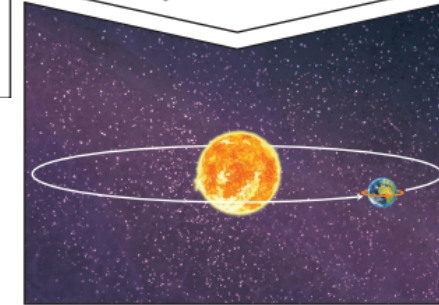
Key Questions:

- What causes day and night?
- How long does it take the Earth to orbit the Sun?
- What causes the seasons?
- What makes up the Solar System?
- What do the Sun, Earth and Moon all have in common?
- What is the order of the planets? Start with the closest planet to the Sun.
- What is a solar eclipse?
- What causes time zones?



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.

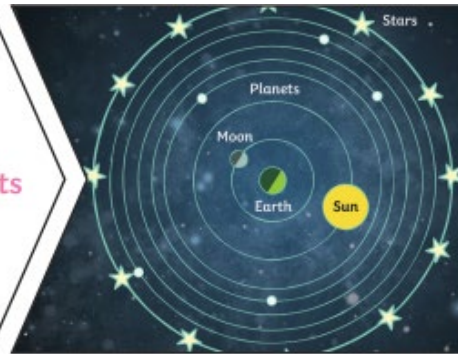
Earth **rotates** (spins) on its **axis**. It does a full **rotation** once in every 24 hours. At the same time that Earth is **rotating**, it is also **orbiting** (revolving) around the **Sun**. It takes a little more than 365 days to **orbit** the **Sun**. Daytime occurs when the side of Earth is facing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



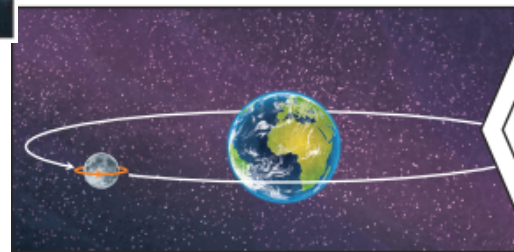
Mercury, Venus, Earth and Mars are rocky **planets**. They are mostly made up of metal and rock. Jupiter, Saturn, Uranus and Neptune are mostly made up of gases (helium and hydrogen) although they do have cores made up of rock and metal.

Geocentric model

Years ago people believed that **planets** moved around the Earth.



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 on 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.

Vocabulary

Asteroid	A rock that orbits the Sun in a belt between Mars and Jupiter.
Axis	An imaginary line through the middle of something.
Comet	A bright object with a long tail that travels around the Sun.
Galaxy	An extremely large group of stars and planets. Our galaxy is called the Milky Way.
Gravity	The force which causes things to drop to the ground.
Leap year	A year which has 366 days. The extra day is 29 th February. There is a leap year every four years.
Meteorite	A rock from outer space that has landed on Earth.
Orbit	The curved path in space that is followed by an object going round and round a planet, moon or star.
Planet	A large, round object in space that moves around a star.
Rotate	Move in a circle round an axis or centre.
Shadow	A dark shape on a surface that is made when something stands between a light and the surface.
Solar System	The Sun and all the planets that go round it.
Sphere	An object that is round like a ball.
Spin	Turns quickly around a central point.
Star	A large ball of burning gas in space.
Time zones	One of the areas into which the world is divided where the time is calculated as being a particular number of hours behind or ahead of GMT (Greenwich Mean Time).
Universe	The whole of space and all the stars, planets, and other forms of matter and energy in it.