Space

Year 5

Knowing More, Remembering More

Remembering previous learning

This is the first time that the children have explored space.

Statutory Requirements:

- 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 Learning Steps

1. The Solar System
2. The Planets
3. Modelling
4. Motions of the Earth and planets
5. The Solar System - ideas over time
6. Planet Earth
7. Night and Day
8. The Moon

Working Scientifically:

5.8 Gather, record and classify data with increasing complexity to help in answering questions.

5.9 **Record data using scientific diagrams and labels, classification keys, tables, bar and line graphs.**

5.10 Report and present findings from enquiries, including conclusions.

5.12 Use scientific evidence to answer questions.

5.13 Make conclusions based on scientific evidence and from their own testing and findings.

Key Vocabulary:

- Solar System
- planet
- spherical
- star
- Sun
- orbit
- surface
- appearance
- model
- gravity
- gravitational pull
- heliocentric
- geocentric
- North Pole
- South Pole
- rotation
- anti-clockwise
- night
- day
- satellite
- moon
- axis
- rotation

Key Scientists:

Classic
Nicolas Copernicus (1473 - 1543)
Discovered that the earth spun on an axis and orbited the sun.

Classic
Galileo Galilei (1564 - 1642)
First person to study the skies with a telescope.

Contemporary
Stephen Hawking (1942 - 2018)
English cosmologist and author famous for work on black hole theory.

Contemporary
Mae Jemison
Doctor, engineer and first African American astronaut.

Contemporary
Paul Scowen
Ex-pupil of St Anselm's and astrophysicist at NASA.

Knowing More, Remembering More

Knowing more in Y5

What makes up the Solar System? The Sun; eight planets and their moons; millions of other smaller celestial bodies.
What is the Sun? The sun is a star, which releases heat and light, and is at the centre of the Solar System.
What shape are the Sun, planets and moons? They are all approximately spherical.
What is the order of the planets (distance from Sun)? Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.
What are Mercury, Venus, Earth and Mars like? They all have a solid surface.
What are Jupiter, Saturn, Uranus and Neptune like? They are made mostly of gas and do not have a solid surface.
What is Pluto? Pluto is classified as a dwarf planet.
What is orbit? The path an object takes around another object because of gravity.
What is gravity? Gravity is a non-contact force caused by objects with mass pulling each other.
What is the largest object in the Solar System? The Sun. All of the planets orbit it.
What is a heliocentric model? A model that puts the Sun at the centre of the Solar System.
What is the Earth? Earth is a planet that orbits the Sun. It is the only planet in the Solar System known to be able to support life.
How long does it take for the Earth to orbit the Sun? It takes about 365 days, or one year, to complete one full orbit.
How long does it take other planets to orbit the Sun? They take different amounts of time to complete a full orbit which is relative to their distance from the Sun.
What is the Earth's axis? It is an imaginary line that runs from the North to the South Pole.
How long does it take for the Earth to rotate once? It rotates once every 24 hours.
What causes day and night. It takes 24 hours for Earth to rotate around its axis and complete one full rotation. It is day on the part of Earth that faces the sun. It is night on the part that faces away from the Sun.
What is a satellite? A satellite is an object that orbits a planet or a star.
What is the moon? A natural satellite that orbits the Earth. It takes approximately 27 days to orbit Earth.