Year 5 – Earth and Space (biology, chemistry, physics)

NC objectives

- 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.

Prior learning

- Explore the natural world around them. (Reception – Earth and space)
- Describe what they see, hear and feel whilst outside. (Reception – Earth and space)
- Observe changes across the four seasons. (Y1 - Seasonal changes)
- Observe and describe weather associated with the seasons and how day length varies. (Y1 - Seasonal changes)

Future Learning

- Gravity force, weight = mass x gravitational field strength (g), on Earth g=10 N/kg, different on other planets and stars; gravity forces between Earth and Moon, and between Earth and Sun (qualitative only). (KS3)
- Our Sun as a star, other stars in our galaxy, other galaxies. (KS3)
- The seasons and the Earth's tilt, day length at different times of year, in different hemispheres. (KS3)
- The light year as a unit of astronomical distance. (KS3)

Key vocabulary

Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets

Common misconceptions

Some children may think:

- the Earth is flat
- the Sun is a planet
- the Sun rotates around the Earth
- the Sun moves across the sky during the day
- the Sun rises in the morning and sets in the evening
- the Moon appears only at night
- night is caused by the Moon getting in the way of the Sun or the Sun moving further away from the Earth.

Areas of enquiry	Hook suggestions
• Observation over time – Create a moon diary • Comparative and fair testing - How does the length of daylight hours change in each season? • Identifying and classifying - How could you organise all the objects in the solar system into groups? • Pattern seeking - Is there a pattern between the size of a planet and the time it takes to travel around the Sun? • Researching using secondary sources - How have our ideas about the solar system changed over time?	<u>Books</u> Beyond the Sky by Dara O'Briain George's Secret Key to the Universe by Lucy & Stephen Hawking <u>Scenarios</u> **Scenario** – Zeeshad says that at different points of the day, the sun is in a different place in the sky. Helen says the sun is always in the same place. (Observing over time and Research)