

St. Benedict's Primary School
SCIENCE
KNOWLEDGE AND SKILLS BUILDER

Science element from the National Curriculum – Earth and Space

Phase	Context for learning ILP Stargazers YEAR 5	Knowledge and Skills
UPPER KEY STAGE 2	<p>Programme of Study linked to Earth and Space</p> <ul style="list-style-type: none"> • Use test results to make predictions to set up further comparative and fair tests. • Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. • Identify scientific evidence that has been used to support or refute ideas or arguments. • 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. 	<p>Skills Use relevant scientific vocabulary to report on their findings, answer questions and justify their conclusions based on evidence collected, identify improvements, further questions and predictions.</p> <p>Knowledge The results are information, such as measurements or observations, that have been collected during an investigation. A conclusion is an explanation of what has been discovered using evidence collected.</p> <p>Skills Describe the Sun, Earth and Moon as approximately spherical bodies and use this knowledge to understand the phases of the Moon and eclipses.</p> <p>Knowledge The Sun, Earth, Moon and the planets in our solar system are roughly spherical. All planets are spherical because their mass is so large that they have their own force of gravity. This force of gravity pulls all of a planet's material towards its centre, which compresses it into the most compact shape – a sphere.</p> <p>Skills Use the idea of Earth's rotation to explain day and night, and the Sun's apparent movement across the sky.</p> <p>Knowledge As Earth orbits the Sun, it also spins on its axis. It takes Earth a day (24 hours) to complete a full spin. During the day, the Sun appears to move through the sky.</p>

- Describe the movement of the Moon relative to the Earth.
- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.

However, this is due to the Earth rotating and not the Sun moving. Earth rotates to the east or, if viewed from above the North Pole, it rotates anti-clockwise, which means the Sun rises in the east and sets in the west. As Earth rotates, different parts of it face the Sun, which brings what we call daytime. The part facing away is in shadow, which is night time.

Skills

Describe or model the movement of the Moon relative to Earth

Knowledge

The Moon orbits Earth, completing a full orbit every month (28 days).

Skills

Take increasingly accurate measurements in standard units, using a range of chosen equipment.

Knowledge

Specialised equipment is used to take measurements in standard units. Examples include data loggers plus sensors, such as light (lux), sound (dB) and temperature (°C); timers (seconds, minutes and hours); thermometers (°C), and measuring tapes (millimetres, centimetres, metres).

Skills

Explain that objects fall to Earth due to the force of gravity

Knowledge

Gravity is a force of attraction. Anything with a mass can exert a gravitational pull on another object. The Earth's large mass exerts a gravitational pull on all objects on Earth, making dropped objects fall to the ground.

- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.

- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.

Skills

Plan and carry out a range of enquiries, including writing methods, identifying variables and making predictions based on prior knowledge and understanding.

Knowledge

A method is a set of clear instructions for how to carry out a scientific investigation. A prediction is a statement about what might happen in an investigation based on some prior knowledge or understanding.

Skills

Take increasingly accurate measurements in standard units, using a range of chosen equipment.

Knowledge

Specialised equipment is used to take measurements in standard units. Examples include data loggers plus sensors, such as light (lux), sound (dB) and temperature (°C); timers (seconds, minutes and hours); thermometers (°C), and measuring tapes (millimetres, centimetres, metres).