



Medium-Term Planning

Focus subject - Science



Year and Term:	Year 4 - Autumn Term 1
Teacher:	Miss Swan
Science Unit:	Earth and Space

National Curriculum Objectives Addressed for Science:

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 Science Skills:

I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.

I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.

I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar charts and line graphs.

I can use test results to make predictions to set up further comparative and fair tests.

I can talk about and present findings from enquiries, including conclusions, casual relationships and explanations of how reliable the information is.

I can identify scientific evidence that has been used to support or refute ideas or arguments.

Key Science Vocabulary:

earth, sea, sun, moon, axis, planets, solar system, star, constellation, phases of the moon, waxing, waning, gibbous moon, full moon

Can I...?

Activities

Lesson 1	Can I describe the movements of the Sun, Earth and Moon?	<p>Recap prior knowledge and understanding about space. Recap key vocabulary. Discuss definitions and descriptions of the Sun, Earth, and Moon.</p> <p>Children to create a moving model of the Sun, Earth and Moon using templates and split pins.</p> <p><u>Challenge:</u></p> <p>Can children write a description of how the Sun, Earth and Moon move around each other</p>
Lesson 2	Can I explore how the rotation of Earth creates day and night?	<p>Children to work in groups to describe scientifically the difference between day and night. Pick up on and discuss any misconceptions. Discuss the different time zones around the world. Why is it necessary to have different time zones in places around the world? Children to fill out City Cards with the local time in that city and its timezone.</p> <p><u>Challenge:</u></p> <p>Question cards to explore further.</p>
Lesson 3	Can I explain how the earths tilt creates seasons?	<p>Discuss how the year is split up into four seasons – prior learning. How do these seasons occur?</p> <p>Show children some pictures of the Earth in different positions in its orbit and a specified location. Children to add season labels to a diagram of the earth in orbit.</p> <p><u>Challenge:</u></p> <p>Can children describe the differences in seasons between two locations in opposite hemispheres?</p>
Lesson 4	Can I describe the phases of the moon?	<p>Show children some pictures of the moon in its different phases. Does the moon actually change shape?</p> <p>Look at and discuss the eight positions of the Moon, naming each as we discuss them.</p> <p>Give children Moon cards. Children to work in pairs to match and order the cards correctly.</p> <p><u>Challenge:</u></p> <p>Can children describe how the phases of the Moon are created?</p>

Lesson 5	<p>Can I investigate and discover how theories about our solar system have changed?</p>	<p>Define 'solar system'. Discuss what the children already know. Travel back in time with the children to meet Ptolemy in Egypt. Look at and discuss his geocentric model. Look at and discuss Copernicus and his heliocentric theory. Compare the two theories. Sort solar system fact cards.</p> <p><u>Challenge:</u> Look at a modern model of the solar system. How is it different from the heliocentric theory?</p>
Lesson 6	<p>Can I investigate the planets in the solar system?</p>	<p>Discuss prior learning. What is the difference between a solar system and a galaxy? Look at and discuss the main objects in our solar system. Order the planets. Mnemonic strip. In groups children make a model of the solar system.</p> <p><u>Challenge</u> Can children research a chosen planet?</p>