



Medium-Term Planning

Focus subject - Science



Year and Term:	Year 5/6 - 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 complex data and results 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.

I can describe and evaluate my own and other people's scientific ideas using evidence from a range of sources.

I can group and classify things and recognise patterns

I can find things out using a wide range of secondary sources of information

I can use scientific language and ideas to explain, evaluate and communicate my methods and findings.

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>What do the children already know about space? Recap prior learning. Definitions of the Sun, Earth and Moon. How are these three celestial bodies related to each other? How are they linked? Discuss. Take the children outside to model 'orbiting'. Children to write the correct scientific word with the correct definition. Draw a simple labelled diagram of the Sun.</p> <p><u>Challenge:</u> Can children draw simple labelled diagrams of the Moon and Earth and compare?</p>
Lesson 2	Can I explore how the rotation of Earth creates day and night?	<p>Show the children a diagram of the Sun and the Earth. What do the children notice about the light and shadow on earth? Explain how the Earth orbits the Sun.</p> <p>http://www.bbc.co.uk/bitesize/clips/znj9wmn</p> <p>Children create a sundial and fill out any observations that they make.</p> <p><u>Challenge:</u> Can the children give a brief explanation of how day and night are created?</p>
Lesson 3	Can I explain how the earths tilt creates seasons?	<p>Use slides to describe how the Earth's axis is tilted. Show Earth in a position where neither the Northern or Sothern hemisphere is tilted towards the sun. What season could this be? Show the children a concept cartoon of what would happen if Earth's axis had no tilt, but still orbited and rotated as it normally does? Who in the cartoon do the children agree with? Children label different positions of the Earth's orbit.</p> <p><u>Challenge:</u> Using Statistics cards, which show the average monthly day length for London (Northern Hemisphere), Pretoria (Southern Hemisphere) and Quito (a city close to the equator); can the children create a line graph to show all three sets of data? Children to record observations.</p>
Lesson 4	Can I describe the phases of the moon?	<p>Recap any prior learning about the Moon. Discuss slides and diagram. Show different positions and discuss. Children to create a spinning model of the moon phases. Shade the phases of the moon correctly and label the phases according to the key.</p> <p><u>Challenge:</u> Research and discuss solar eclipses.</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. Look at and discuss a modern theory about what we know now. Compare the three theories. Sort solar system fact cards.</p> <p><u>Challenge:</u> Write a description of geo-and heliocentric models of the solar system.</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? Children to create information flag to stick in each of the planets.</p>