











Year Five Science: Space								
National Curriculum Objectives	'Sticky Six' Knowledge	'Big Six' Vocabulary						
<ul style="list-style-type: none"> <li>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</li> <li>Describe the movement of the Moon relative to the Earth.</li> <li>Describe the Sun, Earth and Moon as approximately spherical bodies.</li> <li>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.</li> </ul>	<ul style="list-style-type: none"> <li>To know that the Sun is a star</li> <li>Know that the Earth orbits the sun and the moon orbits the Earth</li> <li>Explain how the Earth's rotation causes day and night</li> <li>Know that the Sun, Moon and Earth are approximately spherical</li> <li>Name the planets in the solar system</li> <li>Understand the movements of the planets in our solar system</li> </ul>	<table border="1"> <tr> <td>orbit</td> <td>gravity</td> <td>axis</td> </tr> <tr> <td>solar system</td> <td>geocentric</td> <td>heliocentric</td> </tr> </table>	orbit	gravity	axis	solar system	geocentric	heliocentric
orbit	gravity	axis						
solar system	geocentric	heliocentric						
Prior Learning	Key Questions	Future Learning						
<p>In Key Stage 1 and in Year 3 children should:</p> <ul style="list-style-type: none"> <li>Understand changes in weather patterns and seasons.</li> <li>Compare how things move on different surfaces.</li> <li>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</li> <li>Describe magnets as having two poles.</li> </ul> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing</p>	<ul style="list-style-type: none"> <li>How does temperature/size/day length/year length change as you get closer/further to the sun?</li> <li>How does distance from a light source affect how much light hits an object?</li> <li>Does having more moons result in more light hitting a planet? How could you test this?</li> <li>How does speed/size of a meteorite affect the size of the moon crater formed?</li> <li>If the moon became heavier as a result of meteorite collisions what would happen to its position relative to Earth? If the mass of the Earth is 80x that of the moon, why is the gravity at the Earth's surface only 6x greater than at the surface of the moon?</li> <li>Why do we have day/night/months/years/seasons?</li> <li>Why does day length change?</li> <li>Why does shadow size change over the course of a day?</li> </ul>	<p>In KS3 children will learn about:</p> <ul style="list-style-type: none"> <li>Gravity force, weight = mass x gravitational field strength (g), on Earth <math>g=10 \text{ N/kg}</math>, different on other planets and stars; gravity forces between Earth and Moon, and between Earth and Sun (qualitative only)</li> <li>Our Sun as a star, other stars in our galaxy, other galaxies</li> <li>The seasons and the Earth's tilt, day length at different times of year, in different hemispheres the light year as a unit of astronomical distance</li> </ul>						
Key Texts	Assessment Opportunities	Unit Outcome						
 	<ol style="list-style-type: none"> <li>Solar system model</li> <li>Classification of objects in the solar system</li> <li>4 &amp; 5. Diagrams of orbits</li> <li>Explanation of shadows</li> <li>8. Models of moon phases</li> <li>9&amp;10. Written report</li> </ol>	<p>At the end of the unit, children will create a written report to explain how our ideas on the universe have changed throughout history, based on research within the unit.</p>						

Learning Sequence	1	2	3	4	5	6	7	8	9	10
<b>Key Learning</b>	<b>Vocab lesson – Big Six</b>  Create a visual representation of 'Big Six' words	<b>What is in our solar system?</b>  	<b>How could you organise all the objects in the solar system into groups?</b>  	<b>How does day and night occur?</b>  	<b>How does the length of daylight hours change in each season?</b>  	<b>How does a shadow change over the course of a day?</b>  	<b>Is there a pattern between the size of a planet and the time it takes to travel around the Sun (Two lessons)</b>  	<b>Why does the moon change shape throughout the month?</b>  	<b>How have our ideas about the universe changed over time?</b>  	<b>Cross-curricular writing:</b>  <b>Write a report using research from previous lesson.</b>