

Science Progression

Science

Year 5	
Autumn 1	Autumn 2
<p align="center"><b>Properties of Materials</b></p> <ul style="list-style-type: none"> <li>• <i>Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</i></li> <li>• <i>Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</i></li> <li>• <i>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</i></li> </ul> <p><b>Lesson 1:</b> Describe the properties of different materials</p> <p><b>Lesson 2:</b> Compare the properties and uses of different materials</p> <p><b>Lesson 3:</b> Making the perfect sandcastle</p> <p><b>Lesson 4:</b> Explore extracting useful substances from natural resources</p> <p><b>Lesson 5-</b> Explore materials that can be extracted from crude oil; explain the importance of carbon compounds in our lives.</p> <p><b>Lesson 6:</b> Explore the conductivity of materials to improve energy efficiency in buildings or other systems.</p>	<p align="center"><b>Changes of Materials</b></p> <ul style="list-style-type: none"> <li>• <i>Use knowledge of solids , liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</i></li> <li>• <i>Demonstrate that dissolving, mixing and changes of state are reversible changes</i></li> <li>• <i>Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda</i></li> </ul> <p><b>Lesson 1:</b> Understand that some changes to materials are not reversible</p> <p><b>Lesson 2:</b> Know the difference between physical and chemical change</p> <p><b>Lesson 3-</b> Explain the words dissolve and solution</p> <p><b>Lesson 4-</b> Understand the actions of filtering, sieving and evaporating</p> <p><b>Lesson 5-</b> Understand that a chemical change alters a molecule permanently</p> <p><b>Lesson 6-</b> Know the difference between elements, compounds and mixtures.</p>

Year 5	
Spring 1	Spring 2
<p style="text-align: center;"><b>Forces</b></p> <ul style="list-style-type: none"> <li>• <i>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</i></li> <li>• <i>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces</i></li> <li>• <i>Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</i></li> </ul> <p><b>Lesson 1:</b> Describe the life and work of Sir Isaac Newton  <b>Lesson 2:</b> To understand water resistance and friction  <b>Lesson 3:</b> Explore gravity and air resistance  <b>Lesson 4:</b> Predict if an object will float or sink  <b>Lesson 5-</b> Investigate mechanisms- gears  <b>Lesson 6:</b> Investigate mechanisms- levers and pulleys</p>	<p style="text-align: center;"><b>Earth &amp; Space</b></p> <ul style="list-style-type: none"> <li>• <i>Describe the movement of the Earth and other planets relative to the sun in the solar system</i></li> <li>• <i>Describe the movement of the moon relative to the Earth</i></li> <li>• <i>Describe the sun, Earth and moon as approximately spherical bodies</i></li> <li>• <i>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</i></li> </ul> <p><b>Lesson 1:</b> Describe Nicolaus Copernicus' ideas about planetary motion  <b>Lesson 2:</b> Describe the movement of Earth in space  <b>Lesson 3-</b> Learn about gravitational forces  <b>Lesson 4-</b> Describe the characteristics of the planets in our solar system  <b>Lesson 5-</b> Describe the Big Bang theory  <b>Lesson 6-</b> Explain what causes the different phases of the Moon.</p>

Year 5	
Summer 1	Summer 2
<p><b>Animals including Humans (The human life cycle)</b></p> <ul style="list-style-type: none"> <li>• Describe the changes as humans develop to old age</li> <li>• Know the life cycle of different living things, e.g. Mammal, amphibian, insect, bird</li> <li>• Know the differences between different life cycles</li> <li>• Know the process of reproduction in plants</li> <li>• Know the process of reproduction in animals</li> </ul> <p><b>Lesson 1:</b> To learn about life cycles</p> <p><b>Lesson 2:</b> To learn about the human productive organs</p> <p><b>Lesson 3-</b> Exploring gestation periods</p> <p><b>Lesson 4-</b> To describe the changes that happen in childhood</p> <p><b>Lesson 5-</b> To understand the changes which happen in adolescence</p> <p><b>Lesson 6-</b> Describe the changes as humans develop to old age.</p>	<p><b>Living Things &amp; Their Habitats</b></p> <ul style="list-style-type: none"> <li>• Classify living things into broad groups according to observable characteristics and based on similarities and differences</li> <li>• Give reasons for classifying plants and animals based on specific characteristics</li> </ul> <p><b>Lesson 1:</b> Describe the life and work of Sir David Attenborough</p> <p><b>Lesson 2:</b> Describe the life and work of Dame Jane Goodall</p> <p><b>Lesson 3:</b> Learn about sexual reproduction</p> <p><b>Lesson 4:</b> Describe the life cycles of a mammal, bird and reptiles</p> <p><b>Lesson 5-</b> Learn about asexual reproduction</p> <p><b>Lesson 6:</b> Describe the life cycle of an insect and amphibian</p>