



Block	Year 2 - Key NC Science Objectives
<p>Autumn 1 –Everyday Materials - <b>Materials Matter</b></p> <p>Explore the useful properties of materials with a range of investigations involving absorbency and flexibility. Discover which type of kitchen towel or cloth is most effective at mopping up spills</p>	<p><b>Uses of everyday materials</b></p> <ul style="list-style-type: none"> <li>identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses.</li> <li>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting, and stretching.</li> </ul> <p><b>Working Scientifically</b></p> <ul style="list-style-type: none"> <li>asking simple questions and recognising that they can be answered in different ways.</li> <li>observing closely, using simple equipment</li> <li>performing simple tests</li> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions.</li> <li>gathering and recording data to help in answering questions</li> </ul>
<p>Autumn 2 – Everyday Materials - <b>Squash, bend, twist, stretch.</b></p> <p>Explore a range of materials through investigations and explorations. Work on ways to test materials for elasticity and flexibility and find out which paper is the strongest.</p>	<p><b>Uses of everyday materials</b></p> <ul style="list-style-type: none"> <li>identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses.</li> <li>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting, and stretching.</li> </ul> <p><b>Working Scientifically</b></p> <ul style="list-style-type: none"> <li>asking simple questions and recognising that they can be answered in different ways.</li> <li>observing closely, using simple equipment</li> <li>performing simple tests</li> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions.</li> <li>gathering and recording data to help in answering questions</li> </ul>
<p>Spring 1 – Habitats <b>Gardens and Allotments</b></p> <p>Create a class allotment, grow and nurture plants by watering and introducing useful mini beasts, understand how food chains work and understand that energy from the Sun is passed through each link in a food chain.</p>	<p><b>Plants</b></p> <ul style="list-style-type: none"> <li>identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</li> <li>identify and name a variety of plants and animals in their habitats, including microhabitats.</li> <li>describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</li> </ul> <p><b>Working scientifically</b></p> <ul style="list-style-type: none"> <li>asking simple questions and recognising that they can be answered in different ways.</li> <li>observing closely, using simple equipment.</li> <li>performing simple tests.</li> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions</li> </ul>
<p>Spring 2 - Animal Life Cycles – <b>Habitats</b></p> <p>Collect specimens and sort them into categories. Investigate habitats and food chains. To explore how the conditions in a habitat can affect what plants and animals can live there. To understand that living things live in habitats to which they are suited. Design and make a larger habitat diorama. A trip to the zoo to take part in a animal habitat workshop.</p>	<p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>explore and compare the differences between things that are living, dead, and things that have never been alive.</li> <li>identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</li> </ul> <p><b>Working Scientifically</b></p> <ul style="list-style-type: none"> <li>asking simple questions and recognising that they can be answered in different ways.</li> <li>observing closely, using simple equipment</li> <li>performing simple tests</li> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions.</li> <li>gathering and recording data to help in answering questions</li> </ul>



<p>Summer 1 – Animal Life Cycles - <b>Healthy Animals</b></p> <p>Hatch eggs and study the life cycle of chickens. Build understanding that exercise makes the heart work harder and that it is an essential part of a healthy lifestyle. Find out about healthy lunch box foods.</p>	<p><b>Animals, including humans.</b></p> <ul style="list-style-type: none"> <li>notice that animals, including humans, have offspring which grow into adults.</li> <li>find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li> <li>describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</li> </ul> <p><b>Working Scientifically</b></p> <ul style="list-style-type: none"> <li>asking simple questions and recognising that they can be answered in different ways.</li> <li>observing closely, using simple equipment</li> <li>performing simple tests</li> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions.</li> <li>gathering and recording data to help in answering questions</li> </ul>
<p>Summer 2 – Plants <b>Ready, Steady, Grow!</b></p> <p>Learn why plants disperse their seeds and the various clever ways in which they do this. Plant cress seeds and grow a bean using hydroponics – watch and record what happens to them.</p>	<p><b>Plants</b></p> <ul style="list-style-type: none"> <li>observe and describe how seeds and bulbs grow into mature plants.</li> <li>find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul> <p><b>Working scientifically</b></p> <ul style="list-style-type: none"> <li>asking simple questions and recognising that they can be answered in different ways.</li> <li>observing closely, using simple equipment.</li> <li>performing simple tests.</li> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions</li> </ul>

### Types of Investigations

'Working Scientifically' is the continuous area of study in the National Curriculum for Science in England. This aims to ensure that children have greater exposure to a range of enquiry types and that they recognize when the various forms of enquiry are taking place. This is to enable them to decide for themselves which type to use in order to tackle the question they are investigating. The following types of enquiry are included in Hamilton Science planning.

**Exploring:**

Discovering what happens through play and exploration, e.g. What happens when you add water to fabric?

**Observing over time:**

Often linked to exploring but with a time variable included, e.g. Using a thermometer to observe temperature changes of water.

**Sorting, classifying and identifying:**

Putting things into groups based on their characteristics, e.g. In how many ways can you sort these materials?

**Fair test:**

Used when we can control all the variables except the one we are changing, e.g. Which 'towel' material will absorb the most water?

**Pattern seeking:**

Used when there are too many variables to control and so a true fair test is not possible, e.g. Do some people have stronger muscles because they use them more?

**Problem solving:**

Using the science we know to solve a problem, e.g. Using what you have learned about how sounds are made and the loudness of sounds made by different materials, design an effective bird scarer that uses wind chimes or similar.

**Researching and analysing secondary sources**

Using secondary sources to help answer scientific questions that cannot be answered through practical investigations, e.g. Which materials are biodegradable?