

<p>Working Scientifically All Year 1 Year 2</p>		<p>Nursery</p>	<p>Reception</p>	<p>Year 1</p>	<p>Year 2</p>
<p>Pupils will be taught to use the following skills when carrying out investigations:</p> <p><u>Asking simple questions and recognising that they can be answered in different ways</u></p> <ul style="list-style-type: none"> Ask questions about how and why things change Ask questions about how and why things are similar or different Ask questions about how things are and the way they work Ask questions to find out what people do and how things work Ask questions about why and how things are linked <p><u>Observe closely, using simple equipment and measurement</u></p> <ul style="list-style-type: none"> With help identify changes to observe and measure and suggest how to do it Identify simple changes and talk about them Make comparisons between simple features of objects, materials or living things Use non-standard units and simple equipment to record changes Sequence the changes 	<p>Plants</p>	<p>The children will:</p> <ul style="list-style-type: none"> Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. 	<p>The children will:</p> <p>Make observations of plants and talk about changes</p>	<p>The children will:</p> <ul style="list-style-type: none"> identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees. <p>Maria Sibylla Merian (German artist, scientific illustrator, and naturalist)</p>	<p>The children will:</p> <ul style="list-style-type: none"> observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. <p>Thomas Wyatt Turner - (Botanist who studied plant disease)</p>
	<p>Animals, including humans</p>	<p>The children will:</p> <ul style="list-style-type: none"> Make connections between the features of their family and other families. Notice differences between people. Understand the key features of the life cycle of a plant and an animal. 	<p>The children will:</p> <ul style="list-style-type: none"> Make observations of animals and talk about changes Explore the natural world around them. 	<p>The children will:</p> <ul style="list-style-type: none"> identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) <p>Tanesha Allen (Zoologist who studies badgers)</p>	<p>The children will:</p> <ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for survival (water, food and air) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. <p>Elizabeth Garrett Anderson (First English woman to qualify as a doctor)</p>

<p><u>Performing simple tests</u></p> <ul style="list-style-type: none"> • With help notice links between cause and effect • With help identify simple variables to change and measure • Identify similarities and differences and talk about them • Use non-standard units and simple equipment to record data • Suggest ways in which a test can be carried out • Suggest ways in which to record tests • Understand why a test should be fair <p><u>Identify and classifying</u></p> <ul style="list-style-type: none"> • Decide what to observe to identify or sort things • Sort objects by observable and behavioural features <p><u>Using their observations and ideas to suggest answers to questions</u></p> <ul style="list-style-type: none"> • Use my records to help sort or identify other things • Talk about whether the information source was useful 	<p>Materials</p>	<p>The children will:</p> <ul style="list-style-type: none"> • explore materials with different properties. • explore natural materials, indoors and outside. • use all their senses in hands-on exploration of natural materials. • explore collections of materials with similar and/or different properties. • Talk about the differences between materials and changes they notice. • Explore and talk about different forces they can feel. 	<p>The children will:</p> <ul style="list-style-type: none"> • Talk about the similarities and differences in relation to materials 	<p>The children will:</p> <ul style="list-style-type: none"> • distinguish between an object and the material from which it is made • identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • describe the simple physical properties of a variety of everyday materials • compare and group together a variety of everyday materials on the basis of their simple physical properties. <p>Becky Schroeder - (Inventor of Glo-sheets which she patented as a 12-year-old)</p>	<p>The children will:</p> <ul style="list-style-type: none"> • identify and compare the suitability of a variety of everyday materials. • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. <p>Charles Macintosh - (Chemist and inventor of waterproof clothing)</p> <p>Dr Pearl Agyakwa (Materials scientist who studies why some materials wear out and other don't)</p>
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<p><u>Gathering, recording and communicating data and findings to help in answering questions.</u></p> <ul style="list-style-type: none"> • With help make suggestions about how to find things out • Use simple books and electronic media to find things out • Begin to use scientific language to talk about what you have found out` 	<p>Seasonal changes</p>	<p>The children will:</p> <ul style="list-style-type: none"> • explore and respond to different natural phenomena in their setting and on trips. 	<p>The children will:</p> <ul style="list-style-type: none"> • Talk about the features of their own environment and how environments vary from one another • Explore the natural world around them. • understand the effect of changing seasons on the natural world around them. 	<p>The children will:</p> <ul style="list-style-type: none"> • observe changes across the four seasons • observe and describe weather associated with the seasons and how day length varies. <p>Jim Cantore (Meteorologist and storm tracker)</p>	
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<ul style="list-style-type: none"> Record my sorting in sorting circles or tables Record in words and pictures what you find out Record observations in words or pictures or simple tables Record in words or pictures or in simple prepared formats such as tables and / or charts Record in words or pictures or in simple prepared formats such as tables, tally charts and maps <p><u>Use scientific language and read and spell age appropriate scientific vocabulary</u></p> <ul style="list-style-type: none"> Begin to use scientific language to talk about how things are similar or different Use vocabulary related to the topic <p><u>Begin to notice patterns and relationships.</u></p> <ul style="list-style-type: none"> With help decide what patterns to observe and measure and suggest how to do it. Identify simple patterns and talk about them Make links between two sets of observations Use non-standard units and simple equipment to record events that might be related Begin to use scientific language to talk about patterns Talk about whether the pattern was as expected. 	<p>Living things and their habitats</p>	<p>The children will:</p> <ul style="list-style-type: none"> Begin to understand the need to respect and care for the natural environment and all living things. 	<p>The children will:</p> <ul style="list-style-type: none"> know about the similarities and differences in relation to living things explore the natural world around them. Describe what they see, hear and feel whilst outside. Recognise some environments that are different from the one in which they live. 		<p>The children will:</p> <ul style="list-style-type: none"> explore and compare the differences between things that are living, dead, and things that have never been alive 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 identify and name a variety of plants and animals in their habitats, including microhabitats 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. <p>Prem Singh Gill (Polar Scientist who studies where Antarctic seals live, breed and feed)</p> <p>Mary Anning - Fossil hunter who developed the theory that dinosaurs had become extinct a long time ago</p>
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