

Science Skills Progression

Upton Cross Academy

EYFS Understanding the World – The Natural World

3 and 4 year olds: Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about what they see, using a wide range of vocabulary. Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice.

Reception: Explore the natural world around them. Observe and interact with natural processes, such as ice melting, a sound causing a vibration, light travelling through transparent material, an object casting a shadow, a magnet attracting an object and a boat floating on water.

ELG: Explore the natural world around them, making observations and drawing pictures of animals and plants. Understanding some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Skills progression: Pupils will have the opportunity to make collections of natural materials to investigate and talk about. Eg bark, leaves, rocks and sticks. Pupils will have access to equipment to support these investigations. Eg magnifying glasses, iPad etc. All pupils will be encouraged to talk about what they observe and to ask questions. Rich vocabulary will be introduced and encouraged in their play and in their discussions. Pupils will be encouraged to demonstrate and explain the concepts of growth, change and decay with natural materials. Eg planting seeds and bulbs, observe an apple going brown and mouldy over time, life cycles etc. Pupils will have access to books, wall displays and online resources. Pupils will explore different forces through child led and adult directed sessions. Eg how the water pushes up when they try to push a plastic boat under it, how they can stretch an elastic band, snap a twig, but cannot bend a metal spoon. Pupils will also have the opportunity to explore using magnets and magnetic attraction and repulsion. Rich vocabulary will be planned for and introduced to support these investigations. Pupils will have opportunities to change materials from one state to another. All pupils will be involved in cooking sessions where different ingredients will change once cooled or heated. Eg when making ice lollies, melting chocolate for Easter nests. Pupils will explore how different materials float and sink in the water tray and explore how you can shine light through some materials but not others. There will also be an opportunity to explore shadows during the summer linked to seasons. Science will be given a high profile in class with lab coats and exploration stations during self-initiated learning sessions. Jobs involving Science will be discussed and promoted and stereo types avoided.

National Curriculum Aim		KS1	LKS2	UKS2
Working Scientifically	Asking questions	<ul style="list-style-type: none"> ask simple questions and recognise that they can be answered in different ways 	<ul style="list-style-type: none"> ask relevant questions and use different types of scientific enquiries to answer them set up simple practical enquiries, comparative and fair tests 	<ul style="list-style-type: none"> plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
	Measuring and recording	<ul style="list-style-type: none"> observe closely, using simple equipment perform simple tests gather and record data to help in answering questions 	<ul style="list-style-type: none"> make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables gather, record, classify and present data in a variety of ways to help in answering questions 	<ul style="list-style-type: none"> take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
	Concluding	<ul style="list-style-type: none"> identify and classify use their observations and ideas to suggest answers to questions 	<ul style="list-style-type: none"> identify differences, similarities or changes related to simple scientific ideas and processes report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions use straightforward scientific evidence to answer questions or to support their findings 	<ul style="list-style-type: none"> identify scientific evidence that has been used to support or refute ideas or arguments report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
	Evaluating		<ul style="list-style-type: none"> use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions 	<ul style="list-style-type: none"> use test results to make predictions to set up further comparative and fair tests
Types of enquiry that should be covered: Observations over time, Pattern seeking, identifying, grouping, and classifying, comparative and fair testing and researching from secondary sources.				