

Curriculum Progression Document

Science - Lower Key Stage 2 Years 3 and 4



Animals including Humans

Skills Objectives	Knowledge Objectives																		
<ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquires to answer them. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. • Report on findings from enquires, including oral and written explanations, displays or presentations of results and conclusions. 	<ol style="list-style-type: none"> 1. Identify that humans and some other animals have skeletons and muscles for support, protection and movement. 2. Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. 3. Construct and interpret a variety of food chains, identifying producers, predators and prey. 4. Identify the different types of teeth in humans and their simple functions. 5. Describe the simple functions of the basic parts of the digestive system in humans. 																		
<h3>Key Concepts and Vocabulary</h3>																			
Enquiry Record Classify Key Diagram	<table border="0"> <tr> <td>Food energy</td> <td>Diet</td> <td>Omnivore</td> </tr> <tr> <td>Skeleton</td> <td>Digest</td> <td>Herbivore</td> </tr> <tr> <td>Muscle</td> <td>Incisor</td> <td>Carnivore</td> </tr> <tr> <td>Stomach</td> <td>Molar</td> <td></td> </tr> <tr> <td>Intestine</td> <td>Canine</td> <td></td> </tr> <tr> <td></td> <td>Nutrition</td> <td></td> </tr> </table>	Food energy	Diet	Omnivore	Skeleton	Digest	Herbivore	Muscle	Incisor	Carnivore	Stomach	Molar		Intestine	Canine			Nutrition	
Food energy	Diet	Omnivore																	
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Flowering plants

Skills Objectives		Knowledge Objectives	
<ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquires to answer them. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Report on findings from enquires, including oral and written explanations, displays or presentations of results and conclusions. • Set up simple practical enquires, comparative and fair tests. • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. 		<ol style="list-style-type: none"> 1. Identification of common plants 2. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. 3. Identify and describe the functions of different parts of the flowering plants: roots, stem/trunk, leaves and flowers. 4. Investigate the way in which water is transported within plants. 5. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 	
Key Concepts and Vocabulary			
Enquiry Present Conclude Classify Compare Predict Evidence	Nutrition Reproduction Plant life cycle Germination Conditions Photosynthesis Chlorophyll	Revise plant parts Stem Branch Root Leaf Flower Fruit Seed Bulb	Identification Deciduous Evergreen Food dye in flowers Spinners investigation Edible and toxic plants Herbs - medicinal/cultural significance Above reinforced in woodland skills





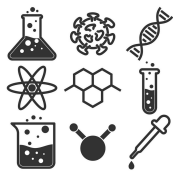
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Rocks

Skills Objectives	Knowledge Objectives		
<ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquires to answer them. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Identify differences, similarities or changes related to simple scientific ideas and processes. • Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. 	<ol style="list-style-type: none"> 1. Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. 2. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. 3. Recognise that soils are made from rocks and organic matter. 4. Understand simple erosion processes 		
Key Concepts and Vocabulary			
Comparison Systematic Observations Conclusion	Erode Human impact on erosion and preventative measures Grain Crystal	Thermometer Data logger Hand lens Microscope	Soil Sand Sedimentary Metamorphic Igneous



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Forces and Magnets

Skills Objectives	Knowledge Objectives		
<ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquires to answer them. • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. • Set up simple practical enquires, comparative and fair tests. • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. 	<ol style="list-style-type: none"> 1. Describe magnets as having two poles. 2. Observe how magnets attract or repel each other and attract some materials and not others. 3. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. 4. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. 5. Predict whether two magnets will attract or repel each other, depending on which poles are facing. 6. Compare how things move on different surfaces. 		
Key Concepts and Vocabulary			
Scientific Enquiry Predict Conclusion Compare/comparative Record Chart Tables (cell, row, column)	Every day uses of magnets Bar, Ring, Horseshoe, Button Magnet	Ferrous/non-ferrous Iron Magnetic Attract Repel Pole Strong Weak	Gravity Friction Push/Pull/Twist



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Light

Skills Objectives	Knowledge Objectives		
<ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquires to answer them. • Gather, record, classify and present data in a variety of ways to help in answering questions. • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. • Report on findings from enquires, including oral and written explanations, displays or presentations of results and conclusions. • Use straightforward scientific evidence to answer questions or to support their findings. 	<ol style="list-style-type: none"> 1. Recognise that they need light in order to see things and that dark is the absence of light. 2. Notice that light is reflected from surfaces. 3. Recognise that shadows are formed when the light from a light source is blocked by a solid object. 4. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes and skin. 5. Find patterns in the way that the size of shadows change. 		
Key Concepts and Vocabulary			
Enquiry Observations Findings Patterns Conclusions Evidence	Light beam Reflect Refract Transparent Opaque	Shadow Light Source Reflector Brightness	Rainbow Travel Straight lines Natural Artificial



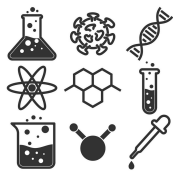
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Sound

Skills Objectives	Knowledge Objectives		
<p>Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Use straightforward scientific evidence to answer questions or to support their findings.</p>	<ol style="list-style-type: none"> 1. Identify how sounds are made, associating some of them with something vibrating 2. Recognise that vibrations from sounds travel through a medium to the ear 3. Find patterns between the pitch of a sound and features of the object that produced it 4. Find patterns between the volume of a sound and the strength of the vibrations that produced it 5. Recognise that sounds get fainter as the distance from the sound source increases. 6. Recognise the dangers of over exposure to sound 		
Key Concepts and Vocabulary			
<p>Record Data Measure Systematic Evidence Tables (cell, row, column)</p>	<p>Noise meters Noise monitoring apps Background noise Noise levels Decibels - dB</p>	<p>Pitch Volume Amplitude High and low notes Frequency</p>	<p>Reflect Absorb Speed of sound Vibrate</p>



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States of Matter

Skills Objectives	Knowledge Objectives		
<ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquires to answer them. • Identify differences, similarities or changes related to simple scientific ideas and processes. • Use straightforward scientific evidence to answer questions or to support their findings. 	<ol style="list-style-type: none"> 1. Compare and group materials together, according to whether they are solids, liquids or gases 2. Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) 3. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. 		
Key Concepts and Vocabulary			
Enquiry Evidence Process	Solid Liquid Gas State Change of state	Freeze Melt Boil Melting/freezing/boiling point Evaporate Reversible	Emulsion Solution Mixture Temperature Celsius