



**Year 4: Science Overview 2021- 2022/2022 -2023**

Topic	<u>Autumn</u> <b>Stone Age, Iron Age and Who Are We?</b> <i>Stone Age to Bronze Age</i>		<u>Spring</u> <b>Highways and Waterwaterways</b> <i>A local Study</i>		<u>Summer</u> <b>Greek Symmetry</b> <i>A Study of Ancient Greece and its links with the modern world</i>	
Main focus	History		Science/Geography		History	
Knowledge	<p><b>Living Things and Their Habitats</b> Recognise that living things can be grouped in a variety of ways</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in the local and wider environment</p> <p>Recognise that environment can change and that this can sometimes pose dangers to living things</p>	<p><b>States of matter</b> Compare and group materials together, according to whether they are solids, liquids or gases</p> <p>Observe that materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p>	<p><b>Sound</b> Identify how sounds are made, associating some of them with something vibrating</p> <p>Recognise that vibrations from sounds travel through a medium to the ear</p> <p>Find patterns between the pitch of a sound and features of the object that produce it</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it</p>	<p><b>Living Things and Their Habitats -</b> Continuing from Autumn term with a focus on the flora and fauna along the canal and the effects of litter and pollution</p> <p>Recognise that living things can be grouped in a variety of ways</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in the local and wider environment</p> <p>Recognise that environment can change and that this</p>	<p><b>Animals, including humans</b> Describe the simple functions of the basic parts of the digestive system in humans</p> <p>Identify the different types of teeth in humans and their simple functions</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey</p>	<p><b>Electricity</b> Identify common appliances that run on electricity</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>Identify whether or not a lamp will light in a simple series circuit and associate this with whether or not the lamp is part of a complete loop with a battery</p> <p>Recognise that a switch opens and</p>



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			Recognise that sounds get fainter as the distance from the sound source increases	can sometimes pose dangers to living things		closes a circuit and associate this with whether or not a lamp light in a simple series circuit  Recognise some common conductors and insulators, and associate metals with being good conductors
Enquiries	<p><b>Classifying</b> Science Walk leading to children classifying living things in their local environment (plants and animals)</p> <p><b>Classifying</b> Introduce branching databases/ dichotomous keys to identify living things</p> <p><b>Observing Over Time</b> Observe living things in their local environment at different times of the year.</p> <p><b>Pattern Seeking</b> Do animals with .... have ....?</p>	<p><b>Classifying</b> Based on the children's own criteria: classify solids (including grains, crystals, powders: physical properties) classify liquids.</p> <p><b>Observing Over Time</b> Watch ice melt (ice hands).</p> <p><b>Observing Over Time</b> Which is the best biscuit for dunking?</p> <p><b>Observing Over Time</b> Watch frozen liquids melt.</p>	<p><b>Classifying</b> Based on the children's own criteria, sort sounds after recording sound walk using data loggers</p> <p><b>Comparative/Fair Testing</b> Measure volume from different instruments</p> <p><b>Comparative/Fair Testing</b> Measure how volume changes away from a source</p> <p><b>Comparative/Fair Testing</b> Investigate string telephones</p> <p><b>Comparative/Fair Testing</b></p>	<p><b>Classifying</b> Science Walk leading to children classifying living things in their local environment (plants and animals)</p> <p><b>Classifying</b> Introduce branching databases/ dichotomous keys to identify living things</p> <p><b>Observing Over Time</b> Observe living things in their local environment at different times of the year.</p> <p><b>Pattern Seeking</b> Do animals with .... have ....?</p>	<p><b>Classifying</b> Compare and contrast different types of teeth (linking to simple functions).</p> <p><b>Classifying</b> Classify jaw bones/teeth to aid with making food chains e.g. recognise what eats plants and what eats animals by looking at their teeth</p> <p><b>Researching</b> Research the different parts of the digestive system. (Children present what they've learned in different ways: create a model, write a song, write a story, create a PPT, etc.)</p>	<p><b>Classifying</b> Based on the children's own criteria, classify household appliances and/or toys (leading to electrical/not electrical, batteries/mains - use of Jam Board</p> <p><b>Comparative/Fair Testing</b> Test metals for conductivity</p> <p><b>Researching</b> Conductors and insulators Poster re Electrical safety</p> <p><b>Comparative/Fair</b></p>



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	<p>Do plants with .... have ....?</p> <p><b>Researching</b> Research and be able to name plants and animals in the wider environment e.g. polar, desert, jungle, etc.</p> <p><b>Researching</b> Research global environmental issues and their impact on living things.</p>		<p>Explore pitch e.g. through making straw panpipes</p> <p><b>Researching</b> Research, make and play their own instruments based on what they learned about pitch and volume</p>	<p>Do plants with .... have ....?</p> <p><b>Researching</b> Research and be able to name plants and animals in the wider environment e.g. polar, desert, jungle, etc.</p> <p><b>Researching</b> Research global environmental issues and their impact on living things.</p>	<p><b>Researching</b> Research what different animals eat within a specific environment, in order to construct food chains.</p>	<p><b>Testing</b> Build simple circuits</p>
Knowledge Matrix	<a href="#">Knowledge Matrix - Prior Knowledge and Future Learning</a>					
Working Scientifically	<a href="#">Working Scientifically Skills Year 3 and Year 4</a>					
Vocabulary	<p><b>Living things and their Habitats -</b> Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate</p>	<p><b>States of Matter -</b> Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle</p>				
Assessment Tasks		<b>TAPS Assessment</b>	<b>TAPS Assessment</b>		<b>TAPS Assessment</b>	

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		<p><b>Microfibres</b> I can ask questions and use my experience to suggest simple methods of inquiry.</p>	<p><b>String Telephones</b> Working Scientifically Review: Identify differences, similarities or changes related to simple scientific ideas and processes</p>		<p><b>Digestion Modelling</b> Scientific skills focus Presents findings: Reports collaboratively and individually using a range of methods.</p>	
Cross-curricular tasks	<p><b>Link to PSHE</b> <b>Stone Age food</b> <b>Medicine and disease</b> What happens to food when we cook it? Why do humans cook their food? The differences between raw food and cooked food and how this changes their chemical state</p>			<p><b>Music:</b> Ancient Greeks using musical instruments on artefacts/in stories Listen with attention and recall, Appreciate and understand recorded and live music, Develop an understanding of the history of music</p>		
Events	<p><b>Black History Month</b> <b>Anti-Bullying Week</b></p>		<p><b>Crick Workshops</b> <b>Science Week - "Connections"</b> <b>Big Garden Birdwatch</b> <b>Book Week</b> <b>Great Big School Clean</b></p>		<p><b>STEAM exhibition</b> <b>Healthy Schools week</b> <b>Sports day</b></p>	
Core texts	<p><b>The Boy with the Bronze Axe</b> Kathleen Fidler</p>	<p><b>The Shirt Machine</b> Jon Davis (<i>FILM</i>)</p>	<p><b>The Lion, the witch, the wardrobe</b> CS Lewis</p>	<p><b>What The Tree Saw</b> Janet Hutcheon</p>	<p><b>Greek Myths</b></p>	

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Science is:

**RESPONSIVE** Responds to what is happening right now

**CREATIVE** Linked to science and the arts

**COMMUNITY** Has a purpose

**EXPERIENTIAL** Is enhanced by experiences