



## Year 4: Science Overview 2023 -2024

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Topic						
Main focus	United Kingdom	Ancient Greece	Wild About Camden	Romans in London	The Coast	Anglo Saxons and Scots
Knowledge  <b>Food Chains</b> <b>Digestive System</b> <b>Teeth</b> <b>States of Matter</b> <b>Sound</b> <b>Electricity</b> <b>Classification and habitats</b>	<p><b>Electricity</b> <b>Identify</b> common appliances that run on electricity</p> <p><b>Construct</b> a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p><b>Identify</b> 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><b>Recognise</b> that a switch opens and closes a circuit and associate this with whether or not a</p>	<p><b>Sound</b> <b>Identify</b> how sounds are made, associating some of them with something vibrating</p> <p><b>Recognise</b> that vibrations from sounds travel through a medium to the ear</p> <p><b>Find</b> patterns between the pitch of a sound and features of the object that produce it</p> <p><b>Find</b> patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p><b>Recognise</b> that sounds get fainter as the distance from the sound source increases</p>	<p><b>Classification and habitat</b> <b>Recognise</b> that living things can be grouped in a variety of ways</p> <p><b>Explore</b> and use classification keys to help group, identify and name a variety of living things in the local and wider environment</p> <p><b>Recognise</b> that environment can change and that this can sometimes pose dangers to living things</p>	<p><b>States of matter</b> <b>Compare</b> and group materials together, according to whether they are solids, liquids or gases</p> <p><b>Observe</b> 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><b>Identify</b> the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p>	<p><b>Animals, including humans</b> <b>Construct</b> and interpret a variety of food chains, identifying producers, predators and prey</p>	<p><b>Animals, including humans</b> <b>Describe</b> the simple functions of the basic parts of the digestive system in humans</p> <p><b>Identify</b> the different types of teeth in humans and their simple functions</p>

**EXPERIENTIAL**

**COMMUNITY**

**CREATIVITY**

**RESPONSIVE**



	<p>lamp light in a simple series circuit</p> <p><b>Recognise</b> some common conductors and insulators, and associate metals with being good conductors</p>					
<p>Enquiries</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 Testing</b> Build simple circuits</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> Explore pitch e.g. through making straw panpipes</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 ....? Do plants 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>Researching</b> Research what different animals eat within a specific environment, in order to construct food chains.</p>	<p><b>Classifying</b> Compare and contrast different types of teeth (linking to simple functions).</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>

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**Researching**  
Research, make and play their own instruments based on what they learned about pitch and volume

**Researching**  
Research and be able to name plants and animals in the wider environment e.g. polar, desert, jungle, etc.

**Researching**  
Research global environmental issues and their impact on living things.

Knowledge Matrix

[Knowledge Matrix - Prior Knowledge and Future Learning](#)

Working Scientifically

[Working Scientifically Skills Year 3 and Year 4](#)

Vocabulary

**Electricity**  
Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol

**Sound**  
Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation

**Living things and their Habitats**  
Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate

**States of Matter**  
Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle

**Food chain:**  
Herbivore, carnivore, omnivore, producer, predator, prey, food chain

**Animals Including Humans - Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars**



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Assessment Tasks	<p><b>TAPS Assessment Working Scientifically Purposeful switches:</b> using results to draw simple conclusions, make predictions for new values, suggest improvements</p>		<p><b>TAPS Assessment Working scientifically Animal Keys</b> classifying data in a variety of ways to help in answering questions</p>		<p><b>TAPS Assessment Working Scientifically: Microfibres</b> I can ask questions and use my experience to suggest simple methods of inquiry.</p>	
Cross-curricular tasks		<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>				<p><b>Link to PSHE Stone Age food 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</p>
Events	<p><b>Black History Month</b> <b>Anti-Bullying Week</b> <b>Harvest Assembly</b></p>		<p><b>Big Garden Birdwatch</b> <b>Book Week</b> <b>Great Big School Clean</b></p>		<p><b>STEAM exhibition</b> <b>Crick Workshops</b> <b>Science Week</b> <b>Healthy Schools week</b> <b>Sports day</b></p>	
Science is:	<p><b>RESPONSIVE</b> Responds to what is happening right now  <b>CREATIVE</b> Linked to science and the arts  <b>COMMUNITY</b> Has a purpose  <b>EXPERIENTIAL</b> Is enhanced by experiences</p>					