



Year 4: States of Matter, Animals Inc Humans, Sound, Living things and Habitats, Electricity; Working Scientifically (Exploring/observing, grouping & classifying, questioning, research, modelling, collaborating, planning & testing, using equipment & measures, communicating, describing results/looking at patterns, explaining results, trusting results)

Autumn Term	Spring Term	Summer Term 1	Summer Term 2
<p><b>Roman Raiders</b></p> <p><b>Animals including Humans</b></p> <ul style="list-style-type: none"> <li>describe the simple functions of the basic parts of the digestive system in humans</li> <li>identify the different types of teeth in humans and their</li> </ul> <p><b>Sound</b></p> <ul style="list-style-type: none"> <li>identify how sounds are made, associating some of them with something vibrating</li> <li>recognise that vibrations from sounds travel through a medium to the ear</li> <li>find patterns between the pitch of a sound and features of the object that produced it</li> <li>find patterns between the volume of a sound and the strength of the vibrations that produced it.</li> <li>recognise that sounds get fainter as the distance from the sound source increases</li> </ul> <p><b>Working Scientifically Skills</b></p> <ul style="list-style-type: none"> <li>Suggest their own ideas on a concept and compare these with what they observe / find out.</li> <li>Discuss ideas and develop descriptions from their observations using relevant scientific language and vocabulary (from Y4 PoS).</li> <li>Begin to give reasons for these similarities and differences.</li> <li>Record similarities as well as differences and / or changes related to simple scientific ideas or processes or more complex groups of objects / living things / events (e.g. evaporation and condensation, different food chains, different electrical circuits).</li> <li>Ask / raise their own relevant questions with increasing confidence and independence that can be explored, observed, tested or investigated further.</li> <li>Choose / select a relevant question that can be answered [by research or experiment / test].</li> <li>Make a visual representation or a model of something to represent something they have seen or a process that is difficult to see.</li> <li>Increasingly support, listen to and acknowledge others in the group.</li> <li>Record findings using relevant scientific language and vocabulary (from Y4 PoS), including discussions, oral and written explanations, notes, drawings (annotated), pictorial representations, labelled diagrams, tables and bar charts [where intervals and ranges agreed through discussion], displays or presentations.</li> <li>Use relevant scientific language and vocabulary (from Y4 PoS) to begin to say / explain why something happened.</li> </ul>	<p><b>Monster Mysteries</b></p> <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>recognise that living things can be grouped in a variety of ways</li> <li>explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li> <li>Recognise that environments can change and that this can sometimes pose dangers to living things.</li> </ul> <p><b>States of matter</b></p> <ul style="list-style-type: none"> <li>identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</li> </ul> <p><b>Animals including humans</b></p> <ul style="list-style-type: none"> <li>construct and interpret a variety of food chains, identifying producers, predators and prey.</li> </ul> <p><b>Working Scientifically Skills</b></p> <ul style="list-style-type: none"> <li>Use observations to suggest what to do next.</li> <li>Observe and record changes / stages over time (linked to Y4 PoS).</li> <li>Make a simple guide to local living things.</li> <li>Use guides or simple keys to classify / identify [animals, flowering plants and non-flowering plants].</li> <li>Use their observations to identify and classify.</li> <li>Record similarities as well as differences and / or changes related to simple scientific ideas or processes or more complex groups of objects / living things / events (e.g. evaporation and condensation, different food chains, different electrical circuits).</li> <li>Ask / raise their own relevant questions with increasing confidence and independence that can be explored, observed, tested or investigated further.</li> <li>Ask questions such as 'What will happen if...?' or 'What if we changed...?' (linked with Y4 PoS).</li> <li>Make decisions about which information to use from a wide range of sources and make decisions about how to present their research.</li> <li>Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.</li> <li>Suggest their own ideas on a concept and compare these with models or images.</li> <li>Collect data from their own observations and measurements, using notes / simple tables / standard units.</li> <li>Learn how to use new equipment, such as data loggers and measure temperature in degrees Celsius (°C) using a thermometer.</li> <li>Notice / find patterns in their observations and data. (Describe the effect of something on something else).</li> <li>Begin to develop their ideas about relationships and interactions between things and explain them.</li> </ul>	<p><b>3 Cheers For Chocolate!</b></p> <p><b>States of matter</b></p> <ul style="list-style-type: none"> <li>compare and group materials together, according to whether they are solids, liquids or gases</li> <li>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)</li> </ul> <p><b>Working Scientifically Skills</b></p> <ul style="list-style-type: none"> <li>Use observations to suggest what to do next.</li> <li>Observe and record relationships between structure and function or between different parts of a processes (linked to Y4 PoS).</li> <li>Observe and record changes / stages over time (linked to Y4 PoS).</li> <li>Begin to give reasons for these similarities and differences.</li> <li>Choose / select a relevant question that can be answered [by research or experiment / test].</li> <li>Make some decisions about an idea within a group (e.g. I think we should find out by testing...)</li> <li>Carry out simple fair tests with increasing confidence investigating the effect of something on something else (linked to Y4 PoS).</li> <li>Start to make their own decisions about the most appropriate type of science enquiry they might use to answer scientific questions (is a fair test the best way to investigate their question?)</li> <li>Begin to recognise when a fair test is necessary.</li> <li>Make a prediction based on the knowledge acquired from previous explorations/observations, apply it to a new situation.</li> <li>Begin to identify where patterns might be found and use this to begin to identify what data to collect.</li> <li>Make accurate measurements using standard units [and more complex units and parts of units] using a range</li> <li>Begin to select the most useful ways to collect, record, classify and present data from a range of choices.</li> <li>Use results to suggest improvements, new questions and / or predictions for setting up further tests.</li> <li>Compare their results with others and give reasons why results might be different.</li> </ul>	<p><b>The Iron Giant</b></p> <p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>identify common appliances that run on electricity</li> <li>construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</li> <li>identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</li> <li>recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</li> <li>Recognise some common conductors and insulators, and associate metals with being good conductors.</li> </ul> <p><b>Working Scientifically Skills</b></p> <ul style="list-style-type: none"> <li>Suggest their own ideas on a concept and compare these with what they observe / find out.</li> <li>Discuss ideas and develop descriptions from their observations using relevant scientific language and vocabulary (from Y4 PoS).</li> <li>Begin to give reasons for these similarities and differences.</li> <li>Record similarities as well as differences and / or changes related to simple scientific ideas or processes or more complex groups of objects / living things / events (e.g. evaporation and condensation, different food chains, different electrical circuits).</li> <li>Ask questions such as 'What will happen if...?' or 'What if we changed...?' (linked with Y4 PoS).</li> <li>Build on / add to someone else's idea to improve a plan.</li> <li>Understand that it is okay to disagree with their peers and offer reasons for their opinion.</li> <li>Explain their planning decisions and choices.</li> <li>Make some of the planning decisions about what to change and measure / observe.</li> <li>Make more of the decisions about what observations to make, how long to make them for and the type of equipment that might be used.</li> <li>Recognise obvious risks and how to keep themselves and others safe.</li> <li>Make decisions on how best to communicate their findings in ways that are appropriate for different audiences.</li> <li>With some independence, analyse results / observations by writing a sentence that matches the evidence i.e. deciding the important aspect of the result and summarising in a conclusion (e.g. metals tend to be good conductors of electricity).</li> </ul>

Key Vocabulary

States of Matter	Animals Inc Humans	Sound	Living things and Habitats	Electricity
<ul style="list-style-type: none"> <li>Solid, holds shape, liquid (pool not pile/ flows), fills container/shape, gas, escapes, spreads, melt, freeze, solidify, heating, cooling, temperature, evaporation, change state, reverse</li> </ul>	<ul style="list-style-type: none"> <li>Mouth, tongue, teeth, oesophagus, abdomen, body, bowel, digestion, digestive system, eat, excrete, food, intestines, liquids, nutrients, organ, processes, saliva, solids, stomach, urinate, teeth, canine, incisor, molar, tooth decay, plaque, disease, carnivores, herbivores, omnivores, faeces, producers, predators, prey</li> </ul>	<ul style="list-style-type: none"> <li>Sound, noise, produced, quiet, soft, loud, harsh, volume, loudness, pitch, high, low, vibration, vibrating, muffle, tuning, length, thickness, tension, travel, material, medium, solid, liquid, gas, instrument, object, insulation</li> </ul>	<ul style="list-style-type: none"> <li>Habitats, sort, classify, organism, prefer, adapted, predator, prey, conditions, suited, food source, characteristics, moisture, shelter, temperature, shade, key</li> <li>Fish, amphibians, reptiles, birds, mammals (vertebrates) snails, slugs, worms, insects (invertebrates)</li> <li>Plants: Flowering/non-flowering. Positive impact of humans; nature reserves, man-made habitats, ecological environments. Negative impacts; deforestation, pollution, litter, population</li> </ul>	<ul style="list-style-type: none"> <li>Electricity, plug, circuit, loop, plug socket, bulb, danger, bulb holders, dangerous, buzzer, battery, switch, connection, mains, wire, break, bright, brighter, less bright, appliances, conductors, insulators, precautions, safety,</li> </ul>

