

# Science Curriculum: Year 3 and 4



<p><b>Working scientifically</b></p>	<p>During Years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> <li>▪ asking relevant questions and using different types of scientific enquiries to answer them</li> <li>▪ setting up simple practical enquiries, comparative and fair tests</li> <li>▪ making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</li> <li>▪ gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</li> <li>▪ recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> <li>▪ reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>▪ using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</li> <li>▪ identifying differences, similarities or changes related to simple scientific ideas and processes</li> <li>▪ using straightforward scientific evidence to answer questions or to support their findings.</li> </ul>
<p><b>BIOLOGY</b></p>	<p><b><u>Plants</u></b></p> <ul style="list-style-type: none"> <li>▪ (3) identify and describe the functions of different parts of flowering plants: roots, stem/trunk leaves and flowers</li> <li>▪ (3) 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</li> <li>▪ (3) investigate the way in which water is transported within plants</li> <li>▪ (3) explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</li> </ul> <p><b><u>Animals, including human</u></b></p> <ul style="list-style-type: none"> <li>▪ (3) 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</li> <li>▪ (3) identify that humans and some other animals have skeletons and muscles for support, protection and movement.</li> <li>▪ (4) describe the simple functions of the basic parts of the digestive system in humans</li> <li>▪ (4) identify the different types of teeth in humans and their simple functions.</li> <li>▪ (4) construct and interpret a variety of food chains, identifying producers, predators and prey</li> </ul> <p><b><u>Living things and their habitats</u></b></p> <ul style="list-style-type: none"> <li>▪ (4) recognise that living things can be grouped in a variety of ways</li> <li>▪ (4) explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li> <li>▪ (4) recognise that environments can change and that this can sometimes pose dangers to living things</li> </ul>
<p><b>CHEMISTRY</b></p>	<p><b><u>Rocks</u></b></p> <ul style="list-style-type: none"> <li>▪ (3) compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>▪ (3) describe in simple terms how fossils are formed when things that have lived are trapped within rock.</li> <li>▪ (3) recognise that soils are made from rocks and organic matter</li> </ul> <p><b><u>States of matter</u></b></p> <ul style="list-style-type: none"> <li>▪ (4) compare and group materials together, according to whether they are solids, liquids or gases</li> <li>▪ (4) 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> <li>▪ (4) identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</li> </ul>
<p><b>PHYSICS</b></p>	<p><b><u>Electricity</u></b></p> <ul style="list-style-type: none"> <li>▪ (4) identify common appliances that run on electricity</li> <li>▪ (4) construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</li> <li>▪ (4) 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>▪ (4) 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>▪ (4) recognise some common conductors and insulators, and associate metals with being good conductors</li> </ul> <p><b><u>Forces and magnets</u></b></p> <ul style="list-style-type: none"> <li>▪ (3) compare how things move on different surfaces</li> <li>▪ (3) notice that some forces need contact between two objects but magnetic forces can act at a distance</li> <li>▪ (3) observe how magnets attract or repel each other and attract some materials and not others</li> <li>▪ (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</li> <li>▪ (3) describe magnets as having two poles</li> <li>▪ (3) predict whether two magnets will attract or repel each other, depending on which poles are facing</li> </ul> <p><b><u>Light</u></b></p> <ul style="list-style-type: none"> <li>▪ (3) recognise that they need light in order to see things and that dark is the absence of light</li> <li>▪ (3) notice that light is reflected from surfaces</li> <li>▪ (3) recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>▪ (3) recognise that shadows are formed when the light from a light source is blocked by a solid object</li> <li>▪ (3) find patterns in the way that the size of shadows changes</li> </ul> <p><b><u>Sound</u></b></p> <ul style="list-style-type: none"> <li>▪ (4) identify how sounds are made, associating some of them with vibrating</li> <li>▪ (4) recognise that vibrations from sounds travel through a medium to the ear</li> <li>▪ (4) find patterns between the pitch of a sound and features of the object that produced it</li> <li>▪ (4) find patterns between the volume of a sound and the strength of the vibrations that produced it.</li> <li>▪ (4) recognise that sounds get fainter as the distance from the sound source increases</li> </ul>