

**WORKING SCIENTIFICALLY SKILLS TO RUN THROUGHOUT THE YEAR:**

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

	PRIOR LEARNING	NATIONAL CURRICULUM OBJECTIVES	KEY VOCABULARY
<b>AUTUMN 1</b>	<ul style="list-style-type: none"> <li>•</li> </ul>	<b>Y4 ELECTRICITY</b> <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>	<b>Y4</b> 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  N.B. Children in year 4 do not need to use standard symbols as this is taught in year 6
<b>AUTUMN 2</b>	<b>Y1 ANIMALS INCLUDING HUMANS</b> <ul style="list-style-type: none"> <li>• identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul>	<b>Y4 SOUND</b> <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. recognise that sounds get fainter as the distance from the sound source increases</li> </ul>	<b>Y4</b> sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation

<p><b>SPRING 1</b></p>	<p><b>Y1 ANIMALS INCLUDING HUMANS</b></p> <ul style="list-style-type: none"> <li>identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</li> <li>identify and name a variety of common animals that are carnivores, herbivores and omnivores</li> <li>describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</li> </ul> <p><b>YEAR 2 EVERYDAY MATERIALS</b></p> <ul style="list-style-type: none"> <li>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> </ul>	<p><b>Y3 FORCES AND MAGNETS</b></p> <ul style="list-style-type: none"> <li>compare how things move on different surfaces</li> <li>notice that some forces need contact between two objects, but magnetic forces can act at a distance</li> <li>observe how magnets attract or repel each other and attract some materials and not others</li> <li>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>describe magnets as having two poles</li> <li>predict whether two magnets will attract or repel each other, depending on which poles are facing.</li> </ul>	<p><b>Y3</b></p> <p>Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole</p>
<p><b>SPRING 2</b></p>	<p><b>Y1 PLANTS</b></p> <ul style="list-style-type: none"> <li>identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</li> <li>identify and describe the basic structure of a variety of common flowering plants, including trees</li> </ul> <p><b>Y2 LIVING THINGS AND THEIR HABITATS</b></p> <ul style="list-style-type: none"> <li>identify and name a variety of plants and animals in their habitats, including micro-habitats</li> </ul> <p><b>Y3 PLANTS</b></p> <ul style="list-style-type: none"> <li>identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</li> </ul>	<p><b>Y4 LIVING THINGS AND THEIR HABITATS (link to rainforests and endangered species and deforestation)</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>Y4</b></p> <p>Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate</p> <p><b>Y3 (plants)</b></p> <p>Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal – wind dispersal, animal dispersal, water dispersal</p> <p><b>Y2 (living things and their habitats)</b></p> <p>Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, names of local habitats e.g. pond, woodland etc., names of micro-habitats e.g. under logs, in bushes etc.</p> <p><b>Y1 (plants)</b></p> <p>Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud</p> <p>Names of trees in the local area</p> <p>Names of garden and wild flowering plants in the local area</p>

<p><b>SUMMER 1 &amp; SUMMER 2</b></p>	<p><b>Y1 EVERYDAY MATERIALS</b></p> <ul style="list-style-type: none"> <li>distinguish between an object and the material from which it is made</li> <li>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>describe the simple physical properties of a variety of everyday materials</li> <li>compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul> <p><b>Y2 EVERYDAY MATERIALS</b></p> <ul style="list-style-type: none"> <li>identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</li> <li>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> </ul>	<p><b>Y4 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> <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>Y4</b></p> <p>Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle</p> <p><b>Y2</b></p> <p>Names of materials – increased range from year 1</p> <p>Properties of materials - as for year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid</p> <p>Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing. Bend/bending, stretch/stretching</p> <p><b>Y1</b></p> <p>Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see through, not see through</p>
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