



## Greasley Beauvale Primary School Science Curriculum



	Knowledge	Skills	Vocabulary
<b>Nursery</b>	<p><b>Animals excluding Humans</b></p> <ul style="list-style-type: none"> <li>• Understand the key features of the life cycle of a plant and an animal.</li> </ul> <p><b>Humans</b></p> <ul style="list-style-type: none"> <li>• Use all their senses in hands-on exploration of natural materials.</li> <li>• Begin to make sense of their own life-story and family's history.</li> </ul> <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• Begin to understand the need to respect and care for the natural environment and all living things.</li> </ul> <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>• Plant seeds and care for growing plants.</li> </ul> <p><b>Materials, including changing materials</b></p> <ul style="list-style-type: none"> <li>• Explore collections of materials with similar and/or different properties.</li> <li>• Talk about the differences between materials and changes they notice.</li> </ul> <p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>• Explore how things work.</li> </ul> <p><b>Forces</b></p> <ul style="list-style-type: none"> <li>• Explore and talk about different forces they can feel.</li> </ul>	<ul style="list-style-type: none"> <li>• Show curiosity and ask questions</li> <li>- Understand 'why' questions, like: "Why do you think the caterpillar got so fat?"</li> <li>• Make observations using their senses and simple equipment</li> <li>- Use all their senses in hands-on exploration of natural materials.</li> <li>- Explore how things work.</li> <li>• Make direct comparisons</li> <li>• Identify, sort and group</li> <li>• Record their observations by drawing, taking photographs, using sorting rings or boxes</li> <li>- Talk about what they see, using a wide vocabulary.</li> <li>- Create closed shapes with continuous lines, and begin to use these shapes to represent objects.</li> <li>- Draw with increasing complexity and detail, such as representing a face with a circle and including details.</li> <li>• Talk about what they have done and found out</li> <li>• Use their observations to help them to answer their questions</li> </ul>	<p><i>Model and encourage children to use vocabulary such as:</i></p> <p><b>Animals excluding Humans</b></p> <ul style="list-style-type: none"> <li>• egg, chick, bird, caterpillar, cocoon, chrysalis, butterfly, frog spawn, tadpole, froglet, frog, grow, change, die, names of animals and their young, fur, feathers, scales, tail, wings, beak, claws, paws, hooves, swim, walk, run, jump, jump, fly, patterns, spots, stripes</li> </ul> <p><b>Humans</b></p> <ul style="list-style-type: none"> <li>• grow, change, baby, toddler, child, adult, old person, smell, taste, touch, feel, hear, see, blind, deaf</li> </ul> <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• natural, plant, animal, leaves, seeds, conkers, acorns, twigs, bark, shells, feathers, pebbles, stones, same, different, pattern</li> </ul> <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>• plant, leaf, stem, trunk, branch, root, bark, flower, petal, seed, berry, fruit, vegetable, bulb, plant, hole, dig, water, weed, grow, shoot, die, dead, soil</li> </ul> <p><b>Materials, including changing materials</b></p> <ul style="list-style-type: none"> <li>• mix, stir, cook, hot, oven, microwave, change, burn, melt, hard, runny, set, freeze, freezer, cold, blended, hard, soft, bendy, stiff, wobbly, wood, plastic, paper, card, fabric</li> </ul> <p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>• battery, plug, socket, electricity, wire, sound, light, move</li> </ul> <p><b>Light</b></p> <ul style="list-style-type: none"> <li>• light, torch, bulb, lamp, spotlight, shiny, bright, brighter, brightest, Sun, shine, glow, mirror</li> </ul> <p><b>Forces</b></p>



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			<ul style="list-style-type: none"> <li>• object, float, sink, water, up, down, top, bottom, push, pull, magnet, spring, squash, bend, twist, stretch, turn, spin, smooth, rough, fast, slow</li> </ul> <p><b>Sound</b></p> <ul style="list-style-type: none"> <li>• sound, noise, loud, quiet, high, low, music, bang, blow, pluck, soft, hard, fast, slow, names of instruments</li> </ul>
<b>EYFS</b>	<p><b>Humans</b></p> <ul style="list-style-type: none"> <li>• Know and talk about the different factors that support their overall health and wellbeing: regular physical activity; healthy eating; toothbrushing; sensible amounts of 'screen time'; having a good sleep routine; being a safe pedestrian.</li> <li>• Name and describe people who are familiar to them.</li> <li>• Manage their own needs.</li> </ul> <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• Recognise some environments that are different to the one in which they live.</li> <li>• Explore the natural world around them.</li> </ul> <p><b>Seasonal changes</b></p> <ul style="list-style-type: none"> <li>• Describe what they see, hear and feel whilst outside.</li> <li>• Understand the effect of changing seasons on the natural world around them.</li> </ul> <p><b>Materials, including changing materials</b></p> <ul style="list-style-type: none"> <li>• Explore a range of materials, including natural materials</li> <li>• Make objects from different materials, including natural materials</li> </ul> <p><b>Sound</b></p> <ul style="list-style-type: none"> <li>• Describe what they see, hear and feel whilst outside.</li> </ul>	<ul style="list-style-type: none"> <li>• Show curiosity and ask questions</li> <li>- Ask questions to find out more and to check they understand what has been said to them.</li> <li>• Make observations using their senses and simple equipment</li> <li>- Explore the natural world around them.</li> <li>- Describe what they see, hear and feel whilst outside.</li> <li>- Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.</li> <li>• Make direct comparisons</li> <li>• Identify, sort and group</li> <li>• Record their observations by drawing, taking photographs, using sorting rings or boxes</li> <li>- Connect one idea or action to another using a range of connectives.</li> <li>• Talk about what they have done and found out</li> <li>- Describe events in some detail.</li> <li>• Use their observations to help them to answer their questions</li> </ul>	<p><i>Model and encourage children to use vocabulary such as:</i></p> <p><b>Animals, excluding humans</b></p> <ul style="list-style-type: none"> <li>• names of animals, live, on land, in water, jungle, desert, North Pole, South Pole, sea, hot, cold, wet, dry, snow, ice</li> </ul> <p><b>Humans</b></p> <ul style="list-style-type: none"> <li>• hair (black, brown, dark, light, blonde, ginger, grey, white, long, short, straight, curly), eyes (blue, brown, green, grey), skin (black, brown, white), big/tall, small/short, bigger/smaller, baby, toddler, child, adult, old person, old, young, brother, sister, mother, father, aunt, uncle, grandmother, grandfather, cousin, friend, family, boy, girl, man, woman</li> </ul> <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• plant, tree, bush, flower, vegetable, herb, weed, animal, names of plants and animals they see, name of a contrasting environment e.g. beach, forest</li> </ul> <p><b>Seasonal changes</b></p> <ul style="list-style-type: none"> <li>• spring, summer, autumn, winter, seasons, sunny, cloudy, hot, warm, cold, shower, raining, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, windy, rainbow, animals, young, plants, flowers</li> </ul> <p><b>Materials, including changing materials</b></p> <ul style="list-style-type: none"> <li>• ice, water, frozen, icicle, snow, melt, wet, cold, slippery, smooth, big, bigger, biggest, smaller, smaller, smallest, hard, soft, bendy, rigid, wood, plastic, paper, card, metal, strong, weak, hot, apply heat, waterproof, soggy, not waterproof, best, change, change back</li> </ul> <p><b>Light</b></p>



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			<p>Model and encourage children to use vocabulary such as:</p> <ul style="list-style-type: none"> <li>• Sun, sunny, light, shadow, shady, clouds, torch, see-through, non-see-through, source, light source</li> </ul> <p><b>Forces</b> Model and encourage children to use vocabulary such as:</p> <ul style="list-style-type: none"> <li>• float, sink, up, down, top, bottom, surface, move, roll, drop, fly, turn, spin, fall, fast, slow, faster, slower, fastest, slowest, further, furthest, wind, air, water, blow</li> </ul> <p><b>Sound</b> Model and encourage children to use vocabulary such as:</p> <ul style="list-style-type: none"> <li>• sound, noise, listen, hear, music, voices, bird song, traffic, sirens, thunder, high, low, loud, quiet, soft, volume, crackle, thunder, hum, buzz, roar</li> </ul> <p>Expose children to supplementary vocabulary such as:</p> <ul style="list-style-type: none"> <li>• source, crescendo, vibration, pitch</li> </ul> <p><b>Earth and space</b></p> <ul style="list-style-type: none"> <li>• Sun, Moon, Earth, star, planet, sky, day, night, space, round, light, heavy, fall, bounce, float, rise, fall, air</li> </ul> <p>Expose children to supplementary vocabulary such as:</p> <ul style="list-style-type: none"> <li>• sunrise, sunset, astronaut, astronomer, constellation, orbit, nocturnal, slow-motion, magnify</li> </ul>
<b>Year 1</b>	<p><b>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> <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> <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>• Know and name a variety of common wild and garden plants including deciduous and evergreen trees</li> <li>• Know and name the petals, stem, leaves and root of a plant</li> </ul>	<p><b>To be achieved by the end of year 2:</b></p> <ul style="list-style-type: none"> <li>• asking simple questions and recognising that they can be answered in different ways</li> <li>• observing closely, using simple equipment</li> <li>• performing simple tests</li> <li>• identifying and classifying</li> </ul>	<p><b>Animals including Humans</b> Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves</p> <ul style="list-style-type: none"> <li>• Names of animals experienced first-hand from each vertebrate group</li> <li>• Parts of the body including those linked to PSHE</li> <li>• Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue</li> </ul> <p><b>Plants</b> Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud</p> <ul style="list-style-type: none"> <li>• Names of trees in the local area</li> </ul>



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	<ul style="list-style-type: none"> <li>Know and name the roots, trunk, branches and leaves of a tree</li> </ul> <p><b>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>Seasonal Change</b></p> <ul style="list-style-type: none"> <li>Observe changes across the four seasons</li> <li>Observe and describe weather associated with the seasons and how day length varies.</li> </ul>	<ul style="list-style-type: none"> <li>using their observations and ideas to suggest answers to questions</li> <li>gathering and recording data to help in answering questions.</li> </ul>	<ul style="list-style-type: none"> <li>Names of garden and wild flowering plants in the local area</li> </ul> <p><b>Everyday Materials</b> 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> <p><b>Seasonal Change</b> • Weather (<i>sunny, rainy, windy, snowy etc.</i>) • Seasons (<i>winter, summer, spring, autumn</i>) • Sun, sunrise, sunset, day length</p>
<b>Year 2</b>	<p><b>Everyday Materials</b></p> <ul style="list-style-type: none"> <li>Know how materials can be changed by squashing, bending, twisting and stretching</li> <li>Know why a material might or might not be used for a specific job</li> </ul> <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>Know the differences between things that are living, dead, and things that have never been alive</li> <li>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</li> <li>Identify and name a variety of plants and animals in their habitats, including microhabitats</li> <li>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</li> </ul> <p><b>Animals including Humans</b></p> <ul style="list-style-type: none"> <li>Know the basic stages in a life cycle for animals, (including humans)</li> <li>Know why exercise, a balanced diet and good hygiene are important for humans</li> <li>find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li> </ul> <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>Know and explain how seeds and bulbs grow into plants</li> </ul>	<p><b>To be achieved by the end of year 2:</b></p> <ul style="list-style-type: none"> <li>asking simple questions and recognising that they can be answered in different ways</li> <li>observing closely, using simple equipment</li> <li>performing simple tests</li> <li>identifying and classifying</li> <li>using their observations and ideas to suggest answers to questions</li> <li>gathering and recording data to help in answering questions.</li> </ul>	<p><b>Everyday Materials</b> Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching</p> <p><b>Living things and their habitats</b> 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>Animals including Humans</b> Offspring, reproduction, growth, child, young/old stages (<i>examples - chick/hen, baby/child/adult, caterpillar/butterfly</i>), exercise, heartbeat, breathing, hygiene, germs, disease, food types (<i>examples – meat, fish, vegetables, bread, rice, pasta</i>)</p> <p><b>Plants</b> As for Year 1 plus light, shade, sun, warm, cool, water, grow, healthy</p>



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	<ul style="list-style-type: none"> <li>Know what plants need in order to grow and stay healthy (water, light &amp; suitable temperature)</li> </ul>		
Year 3	<p><b>Animals including Humans</b></p> <ul style="list-style-type: none"> <li>Know about the importance of a nutritious, balanced diet</li> <li>Know how nutrients, water and oxygen are transported within animals and humans</li> <li>Know about the skeletal and muscular system of a human</li> </ul> <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>Know the function of different parts of flowering plants and trees</li> <li>Know how water is transported within plants</li> <li>Know the plant life cycle, especially the importance of flowers</li> </ul> <p><b>Rocks</b></p> <ul style="list-style-type: none"> <li>Compare and group rocks based on their appearance and physical properties, giving reasons</li> <li>Know how soil is made and how fossils are formed</li> <li>Know about and explain the difference between sedimentary, metamorphic and igneous rock</li> </ul> <p><b>Forces</b></p> <ul style="list-style-type: none"> <li>Know about and describe how objects move on different surfaces</li> <li>Know how a simple pulley works and use to on to lift an object</li> <li>Know how some forces require contact and some do not, giving examples</li> <li>Know about and explain how magnets attract and repel</li> <li>Predict whether magnets will attract or repel and give a reason</li> </ul> <p><b>Light</b></p> <ul style="list-style-type: none"> <li>Know that dark is the absence of light</li> <li>Know that light is needed in order to see and is reflected from a surface</li> <li>Know and demonstrate how a shadow is formed and explain how a shadow changes shape</li> <li>Know about the danger of direct sunlight and describe how to keep protected</li> </ul>	<p><b>To be achieved by the end of year 4:</b></p> <ul style="list-style-type: none"> <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>Animals including Humans</b> Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine</p> <p><b>Plants</b> Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (<i>wind dispersal, animal dispersal, water dispersal</i>)</p> <p><b>Rocks</b> Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil</p> <p><b>Forces</b> 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>Light</b> Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous</p>
Year 4	<p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>Identify and name appliances that require electricity to function</li> <li>Construct a series circuit</li> <li>Identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers)</li> <li>Predict and test whether a lamp will light within a circuit</li> </ul>	<p><b>To be achieved by the end of year 4:</b></p> <ul style="list-style-type: none"> <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> </ul>	<p><b>Electricity</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,</p>



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		<ul style="list-style-type: none"> <li>• Know the function of a switch</li> <li>• Know the difference between a conductor and an insulator; giving examples of each</li> </ul> <p><b>Sound</b></p> <ul style="list-style-type: none"> <li>• Know how sound is made, associating some of them with vibrating</li> <li>• Know how sound travels from a source to our ears</li> <li>• Know the correlation between pitch and the object producing a sound</li> <li>• Know the correlation between the volume of a sound and the strength of the vibrations that produced it</li> <li>• Know what happens to a sound as it travels away from its source</li> </ul> <p><b>States of matter</b></p> <ul style="list-style-type: none"> <li>• Group materials based on their state of matter (solid, liquid, gas)</li> <li>• Know the temperature at which materials change state</li> <li>• Know about and explore how some materials can change state</li> <li>• Know the part played by evaporation and condensation in the water cycle</li> </ul> <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• Use classification keys to group, identify and name living things</li> <li>• Know how changes to an environment could endanger living things</li> </ul> <p><b>Animals including Humans</b></p> <ul style="list-style-type: none"> <li>• Identify and name the parts of the human digestive system</li> <li>• Know the functions of the organs in the human digestive system</li> <li>• Identify and know the different types of human teeth</li> <li>• Know the functions of different human teeth</li> <li>• Use and construct food chains to identify producers, predators and prey</li> </ul>	<ul style="list-style-type: none"> <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> </ul> <p>using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>buzzer, motor, conductor, insulator, metal, non-metal, symbol <i>N.B. Children in Year 4 do not need to use standard symbols for electrical components, as this is taught in Year 6.</i></p> <p><b>Sound</b> Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation</p> <p><b>States of matter</b> Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle</p> <p><b>Living things and their habitats</b> Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate</p> <p><b>Animals including Humans</b> Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain</p>
<b>Year 5</b>	<b>Animals including Humans</b>	<ul style="list-style-type: none"> <li>• Create a timeline to indicate stages of growth in humans</li> </ul> <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>• Know the life cycle of different living things e.g. mammal, amphibian, insect and bird</li> <li>• Know the differences between different life cycles</li> <li>• Know the process of reproduction in plants</li> <li>• Know the process of reproduction in animals</li> </ul>	<p><b>To be achieved by the end of year 6:</b></p> <ul style="list-style-type: none"> <li>• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>• taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>• recording data and results of increasing complexity using scientific diagrams and</li> </ul>	<p><b>Animals including Humans</b> Puberty – the vocabulary to describe sexual characteristics</p> <p><b>Living things and their habitats</b> Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings</p> <p><b>Properties and changes in materials</b></p>



## Greasley Beauvale Primary School Science Curriculum



<b>Year 6</b>	<p><b>Properties and changes in materials</b></p> <ul style="list-style-type: none"> <li>Compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical &amp; thermal], and response to magnets</li> <li>Know and explain how a material dissolves to form a solution</li> <li>Know and show how to recover a substance from a solution</li> <li>Know and demonstrate how some materials can be separated (e.g. through filtering, sieving and evaporating)</li> <li>Know and demonstrate that some changes are reversible and some are not</li> <li>Know how some changes result in the formation of a new material and that this is usually irreversible</li> </ul> <p><b>Forces</b></p> <ul style="list-style-type: none"> <li>Know what gravity is and its impact on our lives</li> <li>Identify and know the effect of air and water resistance</li> <li>Identify and know the effect of friction</li> <li>Explain how levers, pulleys and gears allow a smaller force to have a greater effect</li> </ul> <p><b>Earth and space</b></p> <ul style="list-style-type: none"> <li>Know about and explain the movement of the Earth and other planets relative to the Sun</li> <li>Know about and explain the movement of the Moon relative to the Earth</li> <li>Know and demonstrate how night and day are created</li> <li>Describe the Sun, Earth and Moon (using the term spherical)</li> </ul>	<p>labels, classification keys, tables, scatter graphs, bar and line graphs</p> <ul style="list-style-type: none"> <li>using test results to make predictions to set up further comparative and fair tests</li> <li>reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations</li> <li>identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>	<p>Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material</p> <p><b>Forces</b> Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears</p> <p><b>Earth and space</b> Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets</p>
	<p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>Compare and give reasons for why components work and do not work in a circuit</li> <li>Draw circuit diagrams using correct symbols</li> <li>Know how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer</li> </ul> <p><b>Light</b></p> <ul style="list-style-type: none"> <li>Know how light travels</li> <li>Know and demonstrate how we see objects</li> <li>Know why shadows have the same shape as the object that casts them</li> <li>Know how simple optical instruments work e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.</li> </ul> <p><b>Living things and their habitats</b></p>	<p><b>To be achieved by the end of year 6:</b></p> <ul style="list-style-type: none"> <li>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>using test results to make predictions to set up further comparative and fair tests</li> </ul>	<p><b>Electricity</b> Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage <i>N.B. Children do not need to understand what voltage is, but will use volts and voltage to describe different batteries. The words "cells" and "batteries" are now used interchangeably.</i></p> <p><b>Light</b> As for Year 3 - Light, plus straight lines, light rays</p> <p><b>Living things and their habitats</b></p>



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	<ul style="list-style-type: none"><li>Classify living things into broad groups according to observable characteristics and based on similarities and differences</li><li>Know how living things have been classified</li><li>Give reasons for classifying plants and animals in a specific way</li></ul> <p><b>Animals including Humans</b></p> <ul style="list-style-type: none"><li>Identify and name the main parts of the human circulatory system</li><li>Know the function of the heart, blood vessels and blood</li><li>Know the impact of diet, exercise, drugs and lifestyle on health</li><li>Know the ways in which nutrients and water are transported in animals, including humans</li></ul> <p><b>Evolution and inheritance</b></p> <ul style="list-style-type: none"><li>Know how the Earth and living things have changed over time</li><li>Know how fossils can be used to find out about the past</li><li>Know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents)</li><li>Know how animals and plants are adapted to suit their environment</li><li>Link adaptation over time to evolution</li><li>Know about evolution and can explain what it is</li></ul>	<ul style="list-style-type: none"><li>reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations</li><li>identifying scientific evidence that has been used to support or refute ideas or arguments.</li></ul>	<p>Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering</p> <p><b>Animals including Humans</b> Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle</p> <p><b>Evolution and inheritance</b> Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils</p>
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