

	Statutory Requirements	Working Scientifically non statutory	Vocabulary
<p>Year 5</p> <p>Working Scientifically</p>	<ul style="list-style-type: none"> • During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • Using test results to make predictions to set up further comparative and fair tests • Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and 	<p>Classifying Observing over time Pattern seeking Research Comparative/fair testing</p>	

	<p>written forms such as displays and other presentations</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. 		
All Living Things and their habitats	<ul style="list-style-type: none"> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. 	<p>Observing over time</p> <p>Observe and compare the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times). Ask pertinent questions and suggest reasons for similarities and differences.</p> <p>Comparative/fair testing</p> <p>They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs.</p> <p>Observing over time</p> <p>They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.</p>	<p>Previous Vocabulary</p> <p>decay, plant, structure, reproduction, nutrients, reproduction, fish, bird, amphibian, reptile, mammal, fruit, nectar, anther, ovary, ovule, petal, pollen, stigma, style, stamen, function, exchange, dispersal, fertilization, insect, vertebrates</p> <p>New Vocabulary</p> <p>life cycle, life span, embryo, womb, weaned, adolescence, metamorphosis, pupa, larva, chrysalis, caterpillar, tadpole, hatchling, fledgling, insect</p>
Animals including humans	<ul style="list-style-type: none"> Describe the changes as humans develop to old age. 	<p>Research</p> <p>Research the gestation periods of other animals and compare them with humans; by finding out and recording the length and mass of a baby as it grows.</p>	<p>Previous Vocabulary</p> <p>Reproduction</p> <p>New Vocabulary</p> <p>life cycle, life span, embryo, womb, weaned, adolescence,</p>

<p>Properties and changes of materials</p>	<ul style="list-style-type: none"> • Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic • Demonstrate that dissolving, mixing and changes of state are reversible changes • Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning 	<p>Comparative/fair testing Carry out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?'</p> <p>Compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes.</p> <p>Research Research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss the creative use of new materials such as polymers, super-sticky and super-thin materials.</p>	<p>Previous Vocabulary absorption, bond, condensation, conductor, evaporation, matter, melting, particle, property, reversible, freezing, wood, plastic, glass, metal, water, rock, suitability, surface, waterproof, flexible, rigid, boiling point, melting point, solid, liquid, gas, sublimation, magnetic</p> <p>New Vocabulary irreversible, dissolve, soluble, insoluble, solvent, solute, solution, filter, sieve, saturation, crystallization, thermal, chemistry</p>
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	and the action of acid on bicarbonate of soda.		
Earth and Space	<ul style="list-style-type: none"> Describe the movement of the Earth, and other planets, relative to the Sun in the solar system Describe the movement of the Moon relative to the Earth Describe the Sun, Earth and Moon as approximately spherical bodies Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. 	<p>Research & Observing Compare the time of day at different places on the Earth through internet links and direct communication. Create simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day.</p> <p>Research Find out why some people think that structures such as Stonehenge might have been used as astronomical clocks.</p>	<p>Previous Vocabulary absorption, energy, freezing, melting, orbit, reflection, wave, Sun, spring, summer, autumn, winter.</p> <p>New Vocabulary planet, satellite, sphere, solar system, eclipse, star, universe, constellation, axis, celestial body, Moon, rotating, lunar, solar, telescope, rotation</p>
Forces	<ul style="list-style-type: none"> Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. 	<p>Comparative/fair testing Explore falling paper cones or cup-cake cases, and design and make a variety of parachutes. Carry out fair tests to determine which designs are the most effective.</p> <p>Comparative/fair testing Explore resistance in water by making and testing boats of different shapes. They might design and make products that use levers, pulleys, gears and/or springs and explore their effects</p>	<p>Previous Vocabulary energy, matter, particle, surface, friction, force, stretch, squash, rotation, rough, smooth, sliding friction, static friction</p> <p>New Vocabulary acceleration, air resistance, buoyancy, effort, force meter, fulcrum, gravity, load, mass, mesh, Newton, pivot, rigid, streamlined, terminal velocity, unsupported, water resistance, weight</p>