

SCIENCE UNIT OVERVIEWS 2020-2021

Year group and unit	Working Scientifically	Science Content & Knowledge	Previous learning to recap	Key vocabulary
<p>Year 5 Autumn 1 <i>How do the different states of matter influence the way products are used?</i></p>	<p>Can they give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic? Can they take measurement using a range of scientific equipment? Taking repeat readings when necessary? E.g. dissolving sugar in different volumes of water Can they begin to recognise variables and think about different ways to control these variables when experimenting? E.g. different filter papers for filtering</p>	<p>Can they 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? Do they know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution? Can they use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating? Can they demonstrate that dissolving, mixing and changes of state are reversible changes? Can they 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 and the action of acid on bicarbonate of soda?</p>	<p>Y1 Spring 2: Grouping everyday materials</p> <p>Y2 Autumn 2: how materials are used for different purposes</p> <p>Y3 Autumn 2: Magnets</p> <p>Y4 Autumn 2: States of matter & water cycle</p> <p>Y4 Spring 2: Conductors and electrical circuits</p>	<p>Properties Dissolve Solution Mixtures Reversible Irreversible Filtering Sieving Evaporating Solubility Solvent</p>
<p>Year 5 Autumn 2 <i>How does the life cycle and reproduction of animals and plants differ?</i></p>	<p>Can they observe and compare the life cycles of plants and animals in their local environment? Can they suggest reasons for similarities and differences? Can they report and present their findings in oral and written forms such as displays and other presentations?</p>	<p>Can they describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird? Can they describe the life process of reproduction in some plants and animals? Can they explore the work of well known naturalists and animal behaviourists? (David Attenborough) Can they explain the life cycle of a honeybee? Do they know why honeybees are so vital to the reproduction of other living things – plants?</p>	<p>EY: How can we look after our planet</p> <p>Y1 Spring 1: How plants change over time and plants from local area</p> <p>Y1 Summer 2: Comparing animals</p> <p>Y2 Spring 2: Habitats</p> <p>Y3 Spring 2: How plants rely on living things for pollination</p>	<p>Naturalist Metamorphosis Reproduction Life cycle Asexual reproduction Sexual reproductions Life process Mammal Amphibian Insect Bird Sir David Attenborough</p>

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			Y4 Spring 1: Classification keys and grouping animals	
Year 5 Spring 1 <i>How do the different forces interact with each other and what is the effect of these on the Earth?</i>	Can they use test results to make predictions to set up further comparative and fair tests? e.g. investigate water drag or impact of materials on friction Can they take measurements using a range of scientific equipment with increasing accuracy and precision? e.g. using force meters or linking surface area/mass with buoyancy Can they use this information to create line graphs ?	Can they explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object? Can they identify the effects of air resistance, water resistance and friction, that act between moving surfaces? Can they recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect?	(Link with DT) Y3 Autumn 2: Magnets & forces Links with all material units – particularly with friction	Gravity Force Air resistance Friction Water resistance Pulleys Gears Levers Sir Isaac Newton
Year 5 Spring 2 <i>How do the features of the solar system impact on the Earth?</i>	Can they identify scientific evidence that has been used to support or refute ideas or arguments e.g. that the Earth is round and not flat? Can they use scientific labels and diagrams? Can they use graphs to record data? E.g. the weight of an object and how fast it falls	Can they describe the movement of the Earth, and other planets, relative to the Sun in the solar system? Can they describe the movement of the Moon relative to the Earth? Can they describe the Sun, Earth and Moon as approximately spherical bodies? Can they use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky?	EY: What is special about our planet Y1 Autumn 2: Weather (and geography work on climate) Y3 Summer 1: Light and shadows Y5 Spring 2: Forces and gravity	Earth Gravity Planet Solar system Relative Spherical bodies Rotation Weight Big bang theory Orbit Waxing Waning
Year 5 Summer 2 <i>How do humans change as they develop from babies to old age?</i>	Can they create a scatter graph? e.g. height of children in different year groups matched with their age? Can they create a bar graph? E.g. showing different gestation periods of different animals?	Can they describe the changes as humans develop to old age? Can they draw a timeline to indicate stages in the growth and development of humans? Can they explore gestation periods of different animals and compare these to humans? Can they understand that their bodies will change as they move through adolescence?	EY: How can we look after our planet Y1 Spring 1: How plants change over time and plants from local area	Adolescence Gestation period Puberty Reproduction Offspring Change

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	Can they use graphs to draw conclusions and begin to understand causal relationships ?		Y3 Spring 2: How plants rely on living things for pollination Y5 Autumn 2: life cycles of animals	
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