



Science Implementation

Science is taught as an area of learning in its own right, as well as integrated with other curriculum areas where appropriate. Currently, History and

In Year 5 Science is taught in the following sequence:				
Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
Earth and Space	Forces	Properties and changes of materials	Animals including humans	Living things and their habitats

Year 5 Science Implementation - Topic Specific Vocabulary				
<p>Earth and Space</p> <p>Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases of the Moon, star, constellation, Solar system, Heliocentric, Orbit, Hemisphere, Tilt.</p>	<p>Forces</p> <p>Air resistance, Water resistance, Friction, Gravity, Newton, Gears, Pulley, Lever, Accelerate, Decelerate, Surface Area, Mechanisms</p>	<p>Properties and changes of materials</p> <p>Hardness, Solubility, Separate, Transparency, Conductivity, Magnetic, Filter, Sieve, Evaporate, Mix Dissolve, Reversible / Irreversible Change.</p>	<p>Animals including humans</p> <p>Fertilisation, Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Adolescent, Elderly, Growth, Development, Puberty</p>	<p>Living things and their habitats</p> <p>Mammal, Reproduction, Sexual, Asexual, Insect, Amphibian, Bird, Offspring, Lifecycle, Life Process.</p>



Science Impact

At the end of each topic teachers will evaluate what knowledge and skills pupils have gained against expectations.

WHINSTONE SCIENCE ASSESSMENT YEAR 5		Evidence		Additional Evidence	
	Working Scientifically Y5 & Y6	Date	Grade 1,2,3	Date	Grade 1,2,3
<ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary 					
<ul style="list-style-type: none"> taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate 					
<ul style="list-style-type: none"> recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs 					
<ul style="list-style-type: none"> using test results to make predictions to set up further comparative and fair tests 					
<ul style="list-style-type: none"> 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 					
<ul style="list-style-type: none"> identifying scientific evidence that has been used to support or refute ideas or arguments. 					
<p style="text-align: center;"><i>Exceeding 60%+ Excelling 75%+ From Y6 & KS3.</i></p> <p style="text-align: center;"><i>N.B. Exceeding and Excelling are given as guidance examples only. TA should be used and judgments made based on achievements over and above the statutory requirements for each year group.</i></p>					
4. Animals Including Humans (BIOLOGY) (Spring)					
<ul style="list-style-type: none"> describes the changes as humans develop to old age 					
<p><i>Exceeding - Understand the gestation period of other animals and make comparisons with humans.</i></p>					
<p><i>Excelling - Explain the gestation period of other mammals and make comparisons and links to common ancestors.</i></p>					
5. Living Things and Their Habitats (BIOLOGY) (Summer)					
<ul style="list-style-type: none"> describes the differences in the life cycles of a mammal, an amphibian, an insect and a bird* 					
<ul style="list-style-type: none"> describes the life process of reproduction in some plants and animals 					
<p><i>Exceeding - Understand and explain sexual and asexual reproduction and give relevant examples.</i></p>					
<p><i>Excelling - Enquire and asking pertinent questions and suggesting reasons for similarities and differences.</i></p>					
3. Properties and Changes of Materials (CHEMISTRY) (Spring)					
<ul style="list-style-type: none"> compares and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets* 					
<ul style="list-style-type: none"> knows that some materials will dissolve in liquid to form a solution, and describes how to recover a substance from a solution* 					
<ul style="list-style-type: none"> uses knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating 					
<ul style="list-style-type: none"> gives reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic* 					
<ul style="list-style-type: none"> demonstrates that dissolving, mixing and changes of state are reversible changes 					
<ul style="list-style-type: none"> explains 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><i>Exceeding - Understand and explain reversible and irreversible change and give numerous examples of both.</i></p>					
<p><i>Excelling - Build a more systematic understanding of materials by exploring and comparing the properties and uses of a broad range of materials making links to previous learning.(e.g. magnetism and electricity)</i></p>					
1. Earth and Space (PHYSICS) (Autumn)					
<ul style="list-style-type: none"> describes the movement of the Earth and other planets relative to the sun in the solar system* 					
<ul style="list-style-type: none"> describes the movement of the moon relative to the Earth 					
<ul style="list-style-type: none"> describes the sun, Earth and moon as approximately spherical bodies 					
<ul style="list-style-type: none"> uses the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky* 					
<p><i>Exceeding - Discuss and explain seasons in relation to Earth's axis and orbit of the sun.</i></p>					



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<i>Excelling - Understand and explain how geocentric models of the solar system gave way to the heliocentric model by considering the work of scientists such as Copernicus.</i>				
2. Forces (PHYSICS) (Autumn)				
• explains that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object				
• identifies the effects of air resistance, water resistance and friction, that act between moving surfaces				
• recognises that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect				
<i>Exceeding - Understand and make comparisons between the different forces that act on an object.</i>				
<i>Excelling - Use and explain force arrows in diagrams (balanced and unbalanced forces)</i>				