

## Science Curriculum Overview:

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5	<p><b><u>Intro to Science</u></b> Introduction to science skills such as use of equipment, measuring and recording results, lab safety, use of a Bunsen Burner.</p> <p><b><u>Forces</u></b> Investigating and explaining the science behind why things fall, air resistance, water resistance, and friction.</p> <p>The effect and use of simple mechanisms including leavers, pulleys and gears.</p>	<p><b><u>Properties of materials</u></b> Sorting materials according to their properties, selecting the best materials for different uses, comparison of the properties of solids/liquids/gas.</p>	<p><b><u>Separating and Changing materials</u></b> Using a range of separating techniques such as, filtering, chromatography, evaporation. Comparing solubility of a range of substances, and the science behind why things dissolve. Investigation, comparison and explanation of physical and chemical changes.</p>	<p><b><u>Life cycles</u></b> Looking at the life cycles of a number of living things including, mammals, amphibians, insects, birds</p>	<p><b><u>Earth and space</u></b> Looking at the movement of the Earth, Sun, Moon to cause day and night and the planets of the solar system. Looking at the movement of the Earth, Sun, Moon to cause day and night and the planets of the solar system</p>	<p><b><u>Animals including Humans</u></b> Basic understanding of the systems of the body. rowing up and getting older. Looking at types of reproduction in plants and animals.</p>

Year 6	<p><b><u>Animals including Humans</u></b> Basic understanding of the systems of the body. The impact of exercise, diet, drugs and lifestyle</p>	<p><b><u>Light</u></b> Investigation and explanation of how light travels, how we are able to see objects, the formation of shadows</p>	<p><b><u>Evolution and inheritance.</u></b> Examination of fossils and interpreting fossil evidence to provide information about living things millions of years ago. Understanding how and why offspring vary and are not identical to parents. Identifying how animals and plants have adapted and evolved to improve survival.</p>	<p><b>Evolution continued...</b></p> <p><b><u>Electricity</u></b> Investigating how to build circuits, simple circuit diagrams, how different circuit components work and effect each other and electrical safety.</p>	<p><b><u>Classification</u></b> Learning to identify the 7 signs of life. Looking at how and why scientists sort living things in categories based on similarities and identification of the main classification groups.</p> <p>The use and construction of keys for classification</p>	<p><b>Classification continued</b></p>
Year 7	<p><b>Cells</b> Exploring and identifying cell structure, function and adaptations.</p> <p><b>Reproduction</b> Structure and function of human reproductive systems; menstrual</p>	<p><b>Simple Chemical Reactions</b> Combustion, thermal decomposition, oxidation and displacement reactions. The reaction of acids with metal and alkalis</p>	<p><b>Particle Theory</b> Properties of the different states of matter in terms of the particle model; gas pressure; changes in states in terms of the particle model.</p>	<p><b>Acids and Alkalis continued.</b></p> <p><b>Fuels and Energy resources</b> Energy in different fuels (including food); power rating of appliances in</p>	<p><b>Electricity</b> Electrical current; amps; series and parallel circuits; resistance in conducting and insulating materials; potential difference and voltage.</p>	<p><b>Heating and cooling continued.</b></p> <p><b>Ecology, habitats and adaptations</b> Interdependence of organisms in ecosystems; food webs.</p>

	cycle; fertilisation; gestation and birth		<b>Acids and Alkalis</b> The pH scales for measuring acidity/alkalinity; indicators; and neutralisation.	watts and cost; energy transfer	<b>Heating and cooling</b> Heat and energy transfer between objects via conduction, radiation and convection	
Year 8	<b>Food, nutrition and the digestive system</b> Content of a healthy human diet and the requirement of the various food groups; energy requirements, consequence of an unbalanced diet, the human digestive system its adaptations and functions.	<b>Periodic table, atoms elements and compounds.</b> Difference between elements, compounds and mixtures; use of symbols and formulae, the Mendeleev Periodic table; properties of metals and non-metals; representing chemical reactions using formulae and equations.	<b>Gas exchange systems</b> Structure and function of the gas exchange systems and its organs, mechanism of breathing, measurement of lung volume; impact of exercise, asthma and smoking on gas exchange; and aerobic and anaerobic respiration.  <b>Light</b> How light travels and its speed; use of ray models to explain	<b>Light continued</b>  <b>Sound</b> How sound is created; the medium for the transfer of sounds; Sound waves including frequency, wavelength, amplitude. Echoes, reflection and absorption of sound.	<b>Reactivity Series and Displacement reactions</b> The order of metals in the reactivity series; displacement reactions; exothermic and endothermic reactions	<b>Forces</b> Weight, mass and gravity. Balanced and unbalanced forces. The use of force arrows to show direction and scale of forces. Hooke's Law. The measurement and calculation of speed; and time distance graphs.

			<p>images in mirrors; the pinhole camera; refraction of light; use of convex lenses to focus. The human eye, photosensitive cells on the retina and in cameras. Transfer of light through; absorption and scattering. White light and the colour spectrum and frequencies of light.</p>			
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