

KS3 Science Curriculum Overview

Links to KS2		Classification of materials as solids, liquids and gases. An awareness of contact and non-contact forces. Names of some forces. Knowledge of organisms. Parts of plants. Thermal energy transfer is taught as part of properties of materials. Life cycle of plants and animals. Knowledge of parts of the digestive system and circulatory system. Properties of liquids. Concept of solutions. Separation of solutions. Classification systems. Classifying living things. Adaptations of plants and animals. Food chains.					
Intent	Statement of Intent	The aim of the science curriculum is to equip the pupils with the scientific literacy skills to make informed decisions about their future, to promote a love of science that will see them continue their scientific education, be curious about the world around them and have the knowledge and skills to question concepts and communicate ideas.					
	Timeline	Term 1 - 7 Weeks	Term 2 - 7 Weeks	Term 3 - 7 Weeks	Term 4 - 6 Weeks	Term 5 - 5 Weeks	Term 6 - 6 Weeks
Implementation (Year 7)	Year 7 Overview	Observe, describe, explain and investigate scientific phenomena. To introduce and build confidence in 5 key ideas of KS3 science (cells, forces, energy, particles and interdependence). To develop scientific investigative methodology and safe practical working.					
	SOW	Skills Atoms Forces	Cells Acids & Alkalis Energy			Biological Systems Solutions, Compounds and mixtures Ecology and feeding	
	Assessment Type & Unit Focus	Skills: Lab safety, Planning an investigation, Presenting data Analysing data, Drawing Conclusions Atoms: Solids, liquids and gases, Changing state, Diffusion, Pressure Forces: Contact, non-contact forces, How forces change motion, Link between particles & forces. Assessment is by end of unit tests and through practical skills.	Cells: Characteristics of life, Organisational hierarchy. A&A: Name some common acids and alkalis and classify solutions as acidic, alkaline or neutral, using indicators and pH values. Describe what happens to the pH of a solution when it is neutralised. Describe some everyday uses of acids, alkalis and neutralisation. Energy: Energy stores, energy pathways and devices that transform energy. Methods of thermal energy transfer and insulation. Assessment is by end of unit tests and through practical skills.	Biological Systems: Understand the workings of the human body Solutions, Compounds and mixtures: Separation techniques used in chemistry Ecology and feeding: An introduction to ecology Assessment is by end of unit tests and through practical skills.			

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Implementation (Year 8)	Year 8 Overview	<p>Observe, describe, explain and investigate scientific phenomena. To develop and build confidence in 5 key ideas of KS3 science (cells, forces, energy, particles and interdependence). To develop scientific investigative methodology and safe practical working.</p>		
	SOW	Electricity Chemical Reactions Reproduction	Rocks & Weathering Health & Disease Light & Sound	Inheritance & Variation Metals & Reactivity Astronomy
	Assessment Type & Unit Focus	<p>Electricity: Identify and construct series and parallel circuits, Understand the term voltage, current and resistance, Describe static electricity, Investigate electromagnetism</p> <p>Chemical Reactions: Chemical equations, Combustion, Rates of reaction, Energy in reactions</p> <p>Reproduction: Plant and animal reproduction, Sex cells, Pregnancy and birth, Menstrual cycle</p> <p>Assessment is by end of unit tests and through practical skills.</p>	<p>Rocks & Weathering: 3 types of rocks, Rock cycle, Erosions and transport of rocks</p> <p>Health & Disease: Fitness, Diet, Breathing, Growing and investigating bacteria cultures, Microbes, Defence against disease</p> <p>Light & Sound: Investigating shadows, Reflection, Refraction, Colour, The Eye, Properties of sound, The Ear, Noise and ultrasound</p> <p>Assessment is by end of unit tests and through practical skills.</p>	<p>Inheritance & Variation: Classification, Inherited and environmental variation, The human influence on variation, GM, GE, Cloning</p> <p>Metals & Reactivity: Reactions of metals and metal compounds with acid, Making and naming salts, Reactivity series</p> <p>Astronomy: Phases of the Moon, Seasonal changes, Relative positions of the planets and their conditions compared to Earth</p> <p>Assessment is by end of unit tests and through practical skills.</p>
	Topic Texts	Comprehension tasks are contained within each each topic that provides context to the topic being studied		
	Year Tracking	Data from end of topic assessments are collected by the Science department Tracking for whole school assesment is completed as per the school diary.		
Impact	literacy and Numeracy links	Literacy tasks are embedded within each topic and are designed to build confidence with the key words for the topic. Numeracy is developed throughout the course by a range of methods including the calculation of means, the calculation of percentages, recording data in tables, presenting data graphically and looking for patterns in the data. Primary data is collected through a range of instruments.		
	How It Is Used / Skills Set Developed / Outcomes	Every unit contains a common practical for all classes to complete. This develops skills in planning investigations, using scientific equipment safely, collecting and recoring data, presenting data graphically, analysing the results and presenting a conclusion. Further practical work is completed during most topics		
	Links to Higher Education	KS3 provides the bedrock for the GCSE Science courses, which in turn leads on to a wide variety of Scientific courses and KS5 and in Higher Education.		
	Careers in the Curriculum	Career links to each topic are available that highlight a range of industries that rely on an understaning of the subject content.		