

KS3 YEAR 8 Science Curriculum

Curriculum Intent: We seek through an ambitious and engaging curriculum to develop a sense of curiosity to wonder why and how things work, and to provide skills and knowledge to find the answer. The curriculum is spiralsised to introduce and build on key scientific concepts to help students understand complex ideas enriched by opportunities outside the classroom.

Year 8 build on particle model by giving meaning to elements and how atoms combined to form compounds. This leads to atoms rearranging to form new substances on chemical reactions. This links with chemical reactions in living things respiration and photosynthesis. Non-contact forces follows which give a deeper understanding of how forces are broken and formed in chemical reaction. Biology looks inside the nucleus of cells to further our knowledge of inheritance and how we grow through cells diving and multiplying. . Acids and alkalis make every day useful substances and out use of electricity to make things work.

	Autumn Term			Spring Term			Summer Term		
Main Topic	SC4 – Elements, Compounds and Mixtures SB5 – Ecosystems SB6 – Biochemistry SP5 Non contact forces.			SB6 Biochemistry SC5 Atmospheric Chemistry SP6 – Pressure SC6 Acids and Alkalis SP7 Magnetism and Electricity			SP7 – Magnetism and Electricity SB7 Variation and Classification SB3 Reproduction		
Key Concepts	Recognising elements and compounds Using models Photosynthesis and Respiration Variation within a species Classifying organisms Ecosystem Communities Biotic and Abiotic factors Predator/prey Estimating population size Conservation of mass			Static Fields Respiration Photosynthesis Frictions, drag and moving The pH scale. Neutralisation. Earth atmosphere Carbon cycle and pollution Global warming Acid Rain			Magnetism Fields Interaction of magnetisms and electrics Electricity generation Circuits Vertebrates and invertebrates Keys and classification Variation between organisms. Male and female reproductive systems Humans and Flowers		
Cross-curricular links	Maths Geography History Food technology. Life curriculum			Maths Geography Food technology Technology subjects			Life curriculum Technology Maths Geography		
Interleaving of skills	Develop a method. Estimate Calculate area/mean Write a method, control variables, draw a bar chart. Interpreting a graph and explain interlinked trends ~(predator prey).			Pie chart analysis (links to maths). Description of a simple cycle (carbon cycle – link to menstruation). Modelling limitations (the blanket model). To real world data to spot conclusions. Line graph, spot cause and effect. Constructing a data table, using a bar chart to compare data from different investigations. ollowing a method and using a scale. Th pH scale. Line graph. Using a word equation.			Following a method and using a scale. Th pH scale. Line graph. Using a word equation.		
Literacy	Ecosystems	Atoms	Field	Static	Acid	Magnetism	Species	Gamete	Component

	Interdependence Community Biotic Abiotic Quadrat transect	Chemical change. Reactant Product Conservation of mass	Electrostatic Resistance	Electron Repel Attraction PH Acid Alkali Neutralisation.	Alkali Indicator Observation Neutralisation	Permanent Geo-dynamo Electromagnet Motor Pressure Formula Explain Altitude	Genus Taxonomy Extinct Continuous Variation.	Pollen Sperm Egg Ovary	Potential Difference Origin Parallel
Cultural capital	Cells are the building blocks of life.			Magnets in everyday life e.g. MRI scanner, loudspeakers, electric doors.			How humans reproduce and the process of development of the baby.		
Careers	Ecologist Fitness Coach Greenhouse operative Geologist Evolutionary Biologist, sports scientist.			Police Force ,Fire and Rescue Service , Midwife , Health Care Professional,			Magnetologist , Electrician ,Electrical Engineer Analytical Chemist ,Process Engineer		
Assessment	KMP All units CKT1 SC4 SB5 SB6			KMP All units CKT2 SC5, SP5 SB7 SP6			KMP All units CKT3 All units		