

## Curriculum Design 2023-24

Science							
		Term1		Term2		Term3	
		Term 1.1	Term 1.2	Term 2.1	Term 2.2	Term 3.1	Term 3.2
7	Theme	Forensic Science	Fireworks	Living Organisms	Electricity & Magnetism	Variation	Alien
	Concept						
	Skills Knowledge	Acids and alkalis Simple chemical reactions The particle theory of matter Risk management How do scientists collect and use evidence? How are new hypotheses created and tested?	Signs of a chemical reaction Burning metals in air & oxygen Composition of air Evaluating risks in practical tasks.	Using a microscope Biological drawings Animal cells Plant cells Diffusion Reproduction Evaluating implications of technical advances.	Series circuits Parallel circuits Electrical current Potential difference Magnetic fields Making magnets Electromagnets Planning an investigation	Variation in animals Variation in plants Variation in humans DNA Plant reproduction Pollination Seed dispersal Classification Writing scientific explanations	Resultant forces Friction Mass, gravity & weight Springs Density Day & Night Seasons The moon Draw and justify conclusions
	Wider Curriculum						
8	Theme	Catastrophe	Live & Kicking	Energy and The Earth	Species at War	Chemistry in Action	Studio Magic
	Concept						
	Skills Knowledge	Porosity Chemical weathering Biological weathering Physical weathering Transportation Rock types The rock cycle Fossils	Respiration Circulatory system The heart Gas exchange Effects of smoking Drugs Fitness Planning an investigation	Infrared radiation Absorbing & emitting radiation The greenhouse effect Energy stores Carbon cycle Generating electricity Energy resources Writing scientific explanations	Food chains Food webs Predator & prey relationships Population sampling Habitats Adaptations Natural selection Pathogens	Elements & compounds Structure of the atom The periodic table Purity Oxidation Thermal decomposition Energetics Catalysts Interpreting trends in data	Sound waves The ear Reflection Refraction Dispersion Filtering and mixing colours Draw and justify conclusions
	Wider Curriculum						
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10	Triple	Theme	Infection and response Bioenergetics Chemical changes Mechanics and energy	Homeostasis & responses Energy changes Rate and extent of chemical change Nuclear physics Electrical energy	Inheritance, variation and evolution Chemical analysis Earth's atmosphere Fields and electromagnetism Forces and motion
		Concept			
		Skills Knowledge	Infectious diseases Human defence systems Vaccination Drug development Photosynthesis Aerobic & anaerobic respiration  Balancing symbol equations Reactions of metals Acids Displacement reactions Electrolysis  Scalars & vectors Resultant forces Newton's third law Energy stores & transfers  Springs	Nervous system The brain The eye Thermoregulation ADH & Kidney failure Hormones in human reproduction Plant hormones  Exothermic & endothermic reactions Energy profile diagrams Energy change calculations Chemical & fuel cells  Atoms & isotopes Nuclear radiation Ionisation Half-life Using radiation Nuclear fission and power stations Nuclear fusion Potential difference, current & resistance Diode, thermistors & LDRs Electrical power Domestic electricity	Reproduction DNA and the genome Variation Evolution Cloning Extinction Classification  Formulations and purity Separating mixtures Chromatography Flame testing Development of the atmosphere Greenhouse effect Global climate change Atmospheric pollutants Catalytic converters  Magnetic fields Electromagnets Electric motors Transformers Electric fields Static electricity Speed, distance & time Motion graphs Investigating acceleration Newton's laws Stopping distance
		Wider Curriculum			
	Combined	Theme	Infection & response Bioenergetics Chemical changes Mechanics and energy	Homeostasis and responses Energy changes Rate and extent of chemical change Nuclear physics Electrical energy	Inheritance, variation and evolution Chemical analysis Earth's atmosphere Fields and electromagnetism
		Concept			
		Skills Knowledge	Infectious diseases Human defence systems Vaccination Drug development Photosynthesis Aerobic & anaerobic respiration  Balancing symbol equations Reactions of metals Acids Displacement reactions	Nervous system The brain The eye Thermoregulation ADH & Kidney failure Hormones in human reproduction Plant hormones  Exothermic & endothermic reactions Energy profile diagrams Energy change calculations	Reproduction DNA and the genome Variation Evolution Cloning Extinction Classification  Formulations and purity Separating mixtures Chromatography

			Electrolysis Scalars & vectors Resultant forces Newton's third law Energy stores & transfers Springs	Chemical & fuel cells Atoms & isotopes Nuclear radiation Ionisation Half-life Using radiation Nuclear fission and power stations Nuclear fusion Potential difference, current & resistance Diode, thermistors & LDRs Electrical power Domestic electricity	Flame testing Development of the atmosphere Greenhouse effect Global climate change Atmospheric pollutants Catalytic converters Magnetic fields Electromagnets Electric motors Transformers Electric fields Static electricity	
		Wider Curriculum				
11	Triple	Theme	Ecology Organic chemistry	Quantitative chemistry Light and sound	Using Earth's resources Pressure and moments	Earth and space
		Concept				
		Skills Knowledge	Adaptations Levels of organisation Decomposition Biodiversity Food security  Fractional distillation Alkanes Polymers Alcohols Carboxylic acids	Conservation of mass The Mole Chemical yield Titration  Refraction of light Mixing light Sound waves How we hear Ultrasound	Alloys Ceramics, glass and composites Haber process Making fertilisers  Fluid pressure Boyle's law Atmospheric pressure Moments Stability Gears	Earthquakes Structure of the Earth Black body radiation Stars Life cycle of a star The big bang theory
		Wider Curriculum				
	Combined	Theme	Ecology Quantitative chemistry Using Earth's resources Forces and motion			
		Concept				
		Skills Knowledge	Adaptations Levels of organisation Decomposition Biodiversity Food security  Conservation of mass The Mole Chemical yield Titration Alloys Ceramics, glass and composites Haber process Making fertilisers  Speed, distance & time Motion graphs Investigating acceleration			



			Newton's laws Stopping distance					
		Wider Curriculum						