

Year 10 Curriculum Overview [2026-2027]
Science – Separate Sciences

Autumn Term	Knowledge & Understanding			Literacy Skills Opportunities for developing literacy skills	Employability Skills [if any]	Assessment Opportunities
	Composites	Components [KEY concepts & subject specific vocab]	Formal Retrieval [if any]			
HT1	C1 Atomic Structure and the Periodic Table	- Atoms, Elements and compounds - Mixtures - Atomic Theories - Atom Structure - Relative atomic mass - Electron Configuration - The Periodic Table - Development of the Periodic Table - Metals and Non-Metals - Group 0 - Group 1 - Group 7 - Transition metals	MCQ, Formative assessment	- Keyword and definition - Subject language [Speak like a Scientist] - Inclusive questioning - Writing a method - Write like a Scientist - Comprehension/Extended reading - Extract key points from texts	Personal Skills - Teamwork - Problem solving - Practical applications Scientific Careers - Atomic Research - Chemist - Engineer	MCQ – Periodic table 20 marks Formative Assessment – changing atomic theories 6 marks Formative Assessment – developing the periodic table 6 marks Summative Assessment triple foundation 40 marks, higher 40 marks

HT1	P1 Energy	• Energy Stores and Systems • Changes in energy (Gravitational Potential Energy Kinetic Energy Elastic Energy) • Energy changes in systems • Power • Energy transfers in a system • Efficiency • National and global energy resources	MCQ Formative Assessment	• Keyword and definition • Subject language [Speak like a Scientist] • Inclusive questioning • Writing a method • Write like a Scientist • Comprehension/Extended reading • Extract key points from texts	Personal Skills • Teamwork • Problem solving • Practical applications Scientific Careers • Sport Scientist • National Grid • Energy Conservationist	MCQ – work done 10 marks Formative Assessment – Insulation 5 marks Summative Assessment triple foundation 40 marks, higher 40 marks
HT1/2	B1 Cells	Eukaryotic and Prokaryotic Cells Animal and plant cells Specialised Cells Cell differentiation Microscopes Chromosomes Mitosis and the cell cycle Stem Cells Diffusion Osmosis Active transport	MCQ Formative Assessment	• Keyword and definition • Subject language [Speak like a Scientist] • Inclusive questioning • Writing a method • Write like a Scientist • Comprehension/Extended reading • Extract key points from texts	Personal Skills • Teamwork • Problem solving • Practical applications Scientific Careers • Zoologist • Ecologist • Lab technician • Research scientist	MCQ – cell biology 14 marks Formative Assessment – diffusion 6 marks Summative Assessment triple foundation 40 marks, higher 40 marks

HT2	C2 Bonding, Structure, and the Properties of Matter	• Chemical bonds • Ionic Bonding • Ionic Compounds and their Properties • Covalent Bonding • Small Molecules and their properties • Giant Covalent Structures – Diamond, graphite • Fullerenes and Graphene • Metallic Bonding • Properties of metals and alloys • Metals as conductors • States of Matter • State symbols • Polymers • Nanoparticles	MCQ Formative Assessment	• Keyword and definition • Subject language [Speak like a Scientist] • Inclusive questioning • Writing a method • Write like a Scientist • Comprehension/Extended reading • Extract key points from texts	Personal Skills • Teamwork • Problem solving • Practical applications Scientific Careers • Research Scientist • Engineer • Lecturer • Nanotechnologist	MCQ Formative Assessment – covalent bonding 6 marks Summative Assessment triple foundation 40 marks, higher 40 marks

HT2/3	P2 Electricity and Magnetism	• Circuit Symbols and Diagrams • Electrical Charge and current • Current, resistance and potential difference • Resistors • Series and parallel circuits • Alternating and Direct potential difference • Mains Electricity • Power • Energy Transfers in everyday appliances • The National Grid • Static charge • Electric fields	MCQ Formative Assessment	• Keyword and definition • Subject language [Speak like a Scientist] • Inclusive questioning • Writing a method • Write like a Scientist • Comprehension/Extended reading • Extract key points from texts	Personal Skills • Teamwork • Problem solving • Practical applications Scientific Careers • Electrician • National Grid • Computer Hardware design • Electrical engineer • City planning • Lighting technician on film sets.	MCQ Formative Assessment – resistance of a wire 6 marks Summative Assessment triple foundation 40 marks, higher 40 marks
HT3/4	B2 Organisation	• Principles of Organisation	MCQ	• Keyword and definition	Personal Skills • Teamwork	MCQ – Organs 15 marks

		• Digestive System • The Heart and blood vessels • Blood • CHD • Health issues • Effect of lifestyle on some non-communicable diseases • Cancer • Plant Tissues • Plant organ system	Formative Assessment	• Subject language [Speak like a Scientist] • Inclusive questioning • Writing a method • Write like a Scientist • Comprehension/Extended reading • Extract key points from texts	• Problem solving • Practical applications Scientific Careers • Doctor • Nurse • Food development • Counsellor	MCQ – Cancer 15 marks Formative Assessment – gas exchange 6 marks Summative Assessment triple foundation 40 marks, higher 40 marks
HT4	C4 & C5	• Metal oxides • The reactivity series	MCQ C4	• Keyword and definition • Subject language [Speak like a Scientist]	Personal Skills • Teamwork • Problem solving	MCQ C4 20 marks

	Chemical Changes and Energy Changes	- Extraction of metals and reduction - Oxidation and reduction in terms of electrons - Reactions of acids with metals - Neutralisation of acids and salt production - Soluble salts - The pH scale and neutralisation - Titrations - Strong and weak acids - The process of electrolysis - Electrolysis of molten ionic compounds - Using electrolysis to extract metals - Electrolysis of aqueous solutions - Representation of reactions at electrodes as half equations - Energy Transfer during exothermic and endothermic reactions - Reaction profiles - The energy change of reactions - Cells and batteries - Fuel cells	2 Formative assessments in C4 Formative assessment in C5	- Inclusive questioning - Writing a method - Write like a Scientist - Comprehension/Extended reading - Extract key points from texts	- Practical applications Scientific Careers - Chemist - Chemical metallurgist - Chemical synthesis	Formative Assessment C4 making Salts RP 6 marks Formative Assessment C4 Electrolysis RP 6 marks Formative Assessment C5 Temperature Change RP 6 marks Summative Assessment triple foundation 40 marks, higher 40 marks
HT5	P3 Particle Model	- Density of materials - Changes of state - Internal energy	MCQ Formative Assessment	- Keyword and definition - Subject language [Speak like a Scientist] - Inclusive questioning	Personal Skills - Teamwork - Problem solving	MCQ Formative

		• Temperature changes in a system and specific heat capacity • Changes of state and specific latent heat • Particle motion in gases • Pressure in gases • Increasing the pressure of a gas		• Writing a method • Write like a Scientist • Comprehension/Extended reading • Extract key points from texts	• Practical applications Scientific Careers • Food technologist • Engineer • Pilot • Submariner.	Assessment – changing state 6 marks Summative Assessment triple foundation 40 marks, higher 40 marks
HT5/6	B3 Infection and Response	• Communicable Diseases • Viral Diseases • Bacterial Diseases	MCQ Formative Assessment	• Keyword and definition • Subject language [Speak like a Scientist] • Inclusive questioning	Personal Skills • Teamwork • Problem solving	MCQ microbes 10 marks Formative

		• Fungal Diseases • Protist diseases • Human defence systems • Vaccination • Antibiotics and painkillers • Discovery and development of drugs • Producing monoclonal antibodies • Uses of monoclonal antibodies • Detection and identification of plant diseases • Plant defence responses		• Writing a method • Write like a Scientist • Comprehension/Extended reading • Extract key points from texts	• Practical applications Scientific Careers • Immunology • Medicine • Epidemiology • Pharmacist • Research • Science Reporter/journalist	Assessment – natural defences 6 marks Summative Assessment triple foundation 40 marks, higher 40 marks
HT6	C3 Quantitative Chemistry	• Conservation of mass and balanced chemical equations • Relative formula mass	MCQ Formative Assessment	• Keyword and definition • Subject language [Speak like a Scientist] • Inclusive questioning • Writing a method	Personal Skills • Teamwork • Problem solving • Practical applications	MCQ Formative

		- Mass changes when a reactant or product is a gas - Chemical measurements - Moles - Amounts of substances in equations - Using moles to balance equations - Limiting reactants - Concentrations of solutions - Percentage yield - Atom Economy - Using concentrations of solutions - Use of amount of substance in relation to volumes of gases	End of year test	- Write like a Scientist - Comprehension/Extended reading - Extract key points from texts	Scientific Careers - Analytical scientist - Pharmacist - Academic researcher - Pharmacologist - Laboratory technician - Toxicologist	Assessment – Calculations 5 marks Summative Assessment triple foundation 40 marks, higher 40 marks
HT6	B4 Bioenergetics	- Photosynthesis equation - Factors that affect photosynthesis - Photosynthesis RP	MCQ Formative Assessment End of year test	- Keyword and definition - Subject language [Speak like a Scientist] - Inclusive questioning - Writing a method - Write like a Scientist	Personal Skills - Teamwork - Problem solving - Practical applications	MCQ photosynthesis and respiration 15 marks Formative

		• Uses of glucose and nitrates • equation for aerobic and anaerobic respiration • Metabolism		• Comprehension/Extended reading • Extract key points from texts	Scientific Careers • Sports Science • Physio therapist • Academic researcher • Gardener • Tree surgeon	Assessment – exercise 5 marks Summative Assessment Triple foundation 41 marks, higher 44 marks End of year test will be a real GCSE exam used in a prior year
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