

Year 11 Curriculum Overview [2026-2027]
Science – Combined Science

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	C6 Rates of Reaction	- Calculating rates of reactions - Factors which affect the rates of chemical reactions - Collision theory and activation energy - Catalysts - Reversible reactions - Energy changes and reversible reactions - Equilibrium - The effect of changing conditions on equilibrium - The effect of changing concentration - The effect of temperature changes on equilibrium - The effect of pressure changes on equilibrium	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 - Laboratory technician - Analytical Chemist	MCQ rates – 20 marks Formative Assessment – collision theory 6 marker Summative Assessment – trilogy foundation 52 marks, higher 55 marks

HT1	B5 Homeostasis and Response	• Homeostasis • The human nervous system • Human endocrine system • Control of blood glucose concentration • Hormones in human reproduction • Contraception • The use of hormones to treat infertility • Feedback systems	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 • Midwife, • Gynaecologist • Data scientist • Dialysis nurse • Doctor • Diabetic specialist dietician • Embryologist • Fertility nurse • Health care assistant • Phlebotomist • Neurologist • Neuroscientist • Diabetes specialist nurse	MCQ Formative Assessment – diabetes 6 marker Summative Assessment trilogy foundation 34 marks, higher 38 marks
HT2	P5 Forces	• Scalar and vector quantities	MCQ	• Keyword and definition	Personal Skills • Teamwork	MCQ forces 11 marks

		• Contact and non-contact forces • Gravity • Resultant forces • Work done and energy transfer • Forces and elasticity • Describing motion along a line • Distance and displacement • Speed • Velocity • The distance-time relationship • Acceleration • Newton's first law • Newton's second law • Newton's third law • Stopping distance • Reaction time • Factors affecting braking distance • Momentum as a property of moving objects • Conservation of momentum	Formative Assessment MOCK's Summative Paper 1's for Biology, Chemistry and Physics	• 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 • Pilot • Pro cyclists • Aerospace engineer • race car drivers • Gymnast • Engineer – wind tunnel testing	Formative Assessment Summative Assessment trilogy Foundation 39 marks, higher 39 marks MOCKS on Paper 1's out of 70 marks each
HT3	C7	• Crude oil, hydrocarbons and alkanes	MCQ Formative Assessment	• Keyword and definition • Subject language [Speak like a Scientist]	Personal Skills • Teamwork • Problem solving	MCQ Formative

	Organic Chemistry	- Fractional distillation and petrochemicals - Properties of hydrocarbons - Cracking and alkenes		- Inclusive questioning - Writing a method - Write like a Scientist - Comprehension/Extended reading - Extract key points from texts	- Practical applications Scientific Careers - Fine fragrance evaluator - Flavour chemist - Medicinal chemist - R&D Chemist	Assessment – fractional distillation 6 marks Summative Assessment – trilogy foundation 40, higher 40
HT3	C8 Chemical Analysis	- Pure substances - Formulations - Chromatography - Test for hydrogen - Test for oxygen - Test for carbon dioxide - Test for chlorine	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 - Computational toxicologist - Soil scientist - Bioanalytical scientist - Process chemist - Pollution control officer - Astrochemist - Forensic scientist - Sports scientist	MCQ Formative Assessment – chromatography 8 marks Summative Assessment – trilogy foundation 40, higher 34
HT3	B6	- Sexual and asexual reproduction - Meiosis	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 Assessment – Genetic

	Inheritance, variation and evolution	- DNA and the genome - Genetic Inheritance - Inherited disorders - Sex determination - Variation - Evolution - Selective breeding - Genetic engineering - Evidence for evolution - Fossils - Extinction - Resistant bacteria - Classification of living organisms		- Write like a Scientist - Comprehension/Extended reading - Extract key points from texts	Scientific Careers - Medical research - Genetics counselling - Farming - Genetic research - Managerial roles – problem solving and sequencing - Food production	Engineering 6 marks Summative Assessment – trilogy foundation 33 marks, Higher 34 marks
HT4	P6 Waves	- Transverse and longitudinal waves - Properties of waves - Types of electromagnetic waves - Properties of electromagnetic waves - Uses and applications of electromagnetic waves	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 - Ophthalmologist - Lighting technician - Audiologist - Architecture - Sound engineer - Decorator	MCQ Formative Assessment – Wave speed RP 6 marks Summative Assessment – trilogy foundation 41 marks, higher 40
HT4	C9	The proportions of different gases in the atmosphere	MCQ Formative Assessment	- Keyword and definition - Subject language [Speak like a Scientist] - Inclusive questioning	Personal Skills - Teamwork - Problem solving	MCQ Formative

	Chemistry of the atmosphere	• The Earth's early atmosphere • How oxygen increased • How carbon dioxide decreased • Greenhouse gases • Human activities which contribute to an increase in greenhouse gases in the atmosphere • Global climate change • The carbon footprint and its reduction • Atmospheric pollutants from fuels • Properties and effects of atmospheric pollutants	MOCK's Summative Paper 1's for Biology, Chemistry and Physics	• Writing a method • Write like a Scientist • Comprehension/Extended reading • Extract key points from texts	• Practical applications Scientific Careers • Astrochemist • Atmospheric chemist • Solar technology engineer • Marine biogeochemist	Assessment – global warming 6 marks Summative Assessment – trilogy foundation 40 marks, higher 39 marks MOCKS Summative Assessments Paper 2 Biology Chemistry and Physics each out of 70 marks
HT5	C10 Using Resources	• Using the earth's resources and sustainable development • Potable water	MCQ Formative Assessment	• 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 Formative Assessment – life cycle

		- Waste water treatment - Alternative methods of extracting metals - Life cycle assessment - Ways of reducing the use of resources		- Comprehension/Extended reading - Extract key points from texts	Scientific Careers - Analytical chemist - Bioleaching lab technician - R&D chemist - Science communicator - Water treatment engineer / scientist	assessments 6 marks Summative Assessment – trilogy foundation 40 marks, higher 40
HT5	B7 Ecology	- Communities - Abiotic factors - Biotic factors - Adaptations - Levels of organisation	MCQ Formative Assessment	- 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 Formative Assessment Summative

		• How materials are cycled • Biodiversity • Waste management • Land use • Deforestation • Global Warming • Maintaining biodiversity		• Comprehension/Extended reading • Extract key points from texts	Scientific Careers • Ecologist • Conservationist • Microbiologist • Zoologist • Hydrologist • Horticulturalist • Water treatment engineer / scientist • Geologist • Environmental engineer • Environmental manager	Assessment - trilogy foundation 38 marks, higher 41
HT5	P7 Electromagnetism	• Poles of a magnet • Magnetic fields • Electromagnetism • Fleming's left-hand rule • Electric motors	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 • Electric car design • Magnet design • Recycling Centre sorting • National grid	MCQ Formative Assessment – Electromagnets 6 marks Summative Assessment – trilogy foundation 40 marks, higher 40