

AUTUMN 1

UNIT 1 A Chemistry Periodicity and Properties of Elements. Bonding and intermolecular forces, s,p,d electron configuration, group 1 and 7 reactivity.	UNIT 1 B Biology Structure and Functions of Cells and Tissues Organelles, microscopy, gametes, root hair cells, blood cells.	UNIT 1 C Physics Waves in Communication Wavelength, frequency, amplitude, oscillation, $v=f\lambda$, calculation of speed.	Prior Learning Patterns in periodic table, animal, plant and bacterial cells, longitudinal and transverse waves – all studied at GCSE.
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AUTUMN 2

UNIT 1 A Chemistry Periodicity and Properties of Elements. Periodicity (atomic/ionic radius, ionisation energy, electron affinity), physical trends (melting).	UNIT 1 B Biology Structure and Functions of Cells and Tissues Structure and function of epithelial, endothelial and muscular tissues.	UNIT 1 C Physics Waves in Communication Principles and applications of fibre optics, electromagnetic spectrum for communication.	Prior Learning Introduction to chemical bonding microscopy, wave calculations – all studied at GCSE.
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SPRING 1

UNIT 2 A Chemistry Titration and Colorimetry – techniques. Exam	UNIT 2 B Physics Calorimetry and Cooling Curves – techniques Exam	UNIT 2 C Biology Chromatographic Techniques – techniques. Exam	Prior Learning Mostly new techniques, although building on investigative techniques studied at GCSE.
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SPRING 2

UNIT 2 A Chemistry Titration and Colorimetry Finding the concentration of unknown solutions using titration and colorimetry.	UNIT 2 B Physics Calorimetry and Cooling Curves Analysis of rates of cooling for different substances.	UNIT 2 C Biology Chromatographic Techniques Paper and thin-layer chromatography of plant pigments and amino acids.	Prior Learning Mostly new techniques, although building on investigative techniques studied at GCSE.
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SUMMER 1

UNIT 2 A Chemistry Titration and Colorimetry -submission and review.	UNIT 2 B Physics Calorimetry and Cooling Curves – submission and review.	UNIT 2 C Biology Chromatographic Techniques – submission and review.	UNIT 2 D Personal development review – analysis and evaluation of practical skills developed through Y12.	Prior Learning Mostly new techniques, although building on investigative techniques studied at GCSE.
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SUMMER 2

UNIT 3 sections A – F Investigative Skills – Investigating fuels, growing conditions for plants, diffusion, circuits, and enzymes. In depth method writing, data collection, graph construction and analysis, conclusions and evaluations.	Prior Learning Revision and extension of GCSE content on burning fuels, diffusion, enzymes, electrical circuits.
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CAREERS LINKS

Chemist, research chemist, microbiologist, radio engineer, lab technician.
 Analytical chemist, customs officer, heating engineer, food scientist.

CHARACTER LINKS

Motivation, resilience and teamwork (performance virtues).
 Confidence and determination (performance virtues).
 Listening, critical thinking and problem solving (intellectual virtues).
 Evaluation of ideas and process and seeking improvement through better knowledge and techniques (intellectual virtues).
 Consideration and construction of moral and ethical arguments in Science (moral virtues).

KEY ASSESSMENT DATES

January – Unit 1 exam
 May – Unit 2 deadline
 May / June – Unit 1 exam resit.