



Academic Learning Plan 2023-2024

Year 10 CHEMISTRY

Intent: Students should study the sciences in ways that help them to develop curiosity about the natural world, that give them an insight into how science works and that enable them to appreciate its relevance to their everyday lives. The scope and nature of the study should be broad, coherent, practical, and satisfying. It should encourage students to be inspired, motivated, and challenged by the subject and its achievements.



Year 10 Units	Term 1	Term 2	Term 3
	Triple – C1 & C2 States & Separating Techniques Triple C3 Atomic Structure Triple C4 Periodic Table	Triple C5-C7 Structure & Bonding	Triple C8 - Acids
	Combined - CC1 & 2 States & Separating Techniques Combined CC3 Atomic Structure Combined CC4 Periodic Table	Combined CC5-CC7 Structure & Bonding	Combined CC8 Acids
Chemistry Concepts	Common to Triple & Combined Sciences: C1– 3 states of matter and state changes C2 – Mixtures and separating Techniques such as chromatography, filtration, crystallisation, and distillation C3 – atomic Structure – Structure of the atom and subatomic particles C4 – The History of the periodic table, metals and non-metals and links between atomic structure and the position of elements on the table.	Common to Triple & Combined Sciences C5 – Ionic Bonding of metals and non-metals and the properties of materials linked to this bonding. C6 – Covalent Bonding of non-metals and the properties of materials linked to this bonding. C7 – Structure of materials and links between structure and properties	Common to Triple & Combined Sciences C8 Acids – Reactions of acids with metals, bases, alkali, carbonates as well as titration, pH and neutralisation curves (HT only) .
Year 10 Units	Term 4	Term 5	Term 6
	Triple C9 Maths in Chemistry	Triple C10 Electrolysis	Triple C11 Using Metals & Catch up
	Combined CC10 Electrolysis	Combined CC11 Using Metals	CC13 Groups on the Periodic Table & catch up
	C9 – Quantitative Chemistry looking at empirical formulae and concentration calculations. C10 – Electrolysis – looking at the separation of ionic compounds back into the elemental form using electricity. Looking at ways of purifying and coating materials	C10 – Electrolysis – looking at the separation of ionic compounds back into the elemental form using electricity. Looking at ways of purifying and coating materials. Using Ionic half-cell equations. C11 Extracting metals by displacement, reduction and oxidation and life cycle assessments	C11 Extracting metals by displacement, reduction and oxidation and life cycle assessments and the use of Half-cell equations and OILRIG to understand redox equations. C13 Reactions of group 1,7, noble gases, and transition metals

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Literacy	C1&2 States and Separating C3 – Atomic Structure C4 – periodic table	C5-C7 Bonding	C8 Acids	C9 – Quantitative Chemistry C10 Electrolysis	C10 Electrolysis C11 Metals	C11 Metals C13 Reactions of Groups
Knowledge organiser	C1&2 States and Separating C3 – Atomic Structure C4 – periodic table	C5-C7 Bonding	C8 Acids	C9 – Quantitative Chemistry C10 Electrolysis	C10 Electrolysis C11 Metals	C11 Metals C13 Reactions of Groups
Assessment:	Common to Triple & Combined Units 1-4	Common to Triple & Combined Units 1-7	Common to Triple & Combined Units 1-8	Triple Units 1-9 Combined Units 1 – 8 & 10	Triple Units 1-10 Combined Units 1-8, 10, 11	Common to Triple & Combined End of Year Assessment will test all content covered during year 9 & 10
GCSE AO Link (or other) if applicable	<p>In science the assessment objectives are: AO1 Demonstrate knowledge and understanding. AO2 Apply knowledge and understanding. AO3 Analyse information and ideas. These are all covered in each block of three modules.</p>					
Homework	One piece of homework per fortnight, for up to 45 minutes. Tasks to include, key word tasks, reading comprehension, quizzes and assessment questions					
CEIAG- STEM careers that link to these topics:	Analytical Chemist Quantum Physicist Crystallographer	Pharmacist Pharmacology Drug synthesis Diffraction Specialist Materials Engineer	Analytical Chemist Water Engineer Purity Chemist	Electroplating Industry Metal Coatings expert Metallurgist	Electroplating Industry Metal Coatings expert Metallurgist	Water purity Consultant Explosives Manufacture
Enrichment	Additional Content at A level will be provided to the Triple Scientists as appropriate topics are covered.					