

## Key Stage 4

Subject: Chemistry

### Intent

In Chemistry we aim to develop our students to think like scientists. We want them to challenge the world around them and we train them to develop the skills needed to do this. We look at the history of chemistry from how atoms were discovered to how the periodic table was developed, and then look to the future of chemistry with regards to new materials in our smart phones and computers. We delve into topics which tell us how fast a reaction is, how much has been created and ways to vary both.

We aim to instil a passion for chemistry and encourage as many as possible to continue their chemistry journey as A-level Chemists in years 12 and 13.

### Programme of study and assessment

	Autumn Term	Spring Term	Summer Term
Year 10	History of the Atom Group Chemistry	Bonding, Structure and Nanochemistry Chemical Calculations	Acids, Bases, Salts and Electrolysis Chemical Kinetics
Assessment	<b>Written Test 1:</b> <b>History of the atom</b> Models of the Atom Balancing Equations Atomic Structure <b>Multiple Choice Test 1:</b> <b>Groups Chemistry</b> Group 1 Chemistry Group 7 Chemistry Group 0 Chemistry Alkali and Transition Metals	<b>Multiple Choice Test 2:</b> <b>Bonding and structure</b> Ionic Bonding Covalent Bonding Metallic Bonding States of Matter Giant and Simple Structures <b>Written Test 2:</b> <b>Calculations</b> Moles Relative formula Mass Conservation of Mass Concentration	<b>Multiple Choice Test 3:</b> <b>Acids and bases</b> Strong and Weak Acids Neutralisation Making soluble salts Electrolysis Extraction of Aluminium <b>End of Year Assessment</b> <b>All Content Covered</b>
Year 11	Energy Changes and Electrochemical Cells Chemical Equilibrium Industrial Production Old and New	Organic chemistry Analysis	Revision and practice of all content

<b>Assessment</b>	<b>End of topic test:</b>	<b>Full Mock Paper 2</b>	<b>Summer Exams</b>
	<b>Energy Changes and equilibria</b> Reaction Profile Diagrams Exothermic and Endothermic Reactions Bond Energy Calculations <b>Full Mock Paper 1</b> <b>All Content in Paper 1</b>	<b>All Content in Paper 2</b>	