

Trilogy: Chemistry Overview—GCSE



	Year 10		Year 11		
	<p><i>This is a new GCSE course so the order at which content is covered may be subject to change whilst the course is developed.</i></p> <p><i>Students will be given a variety of assessments each term to track their progress in literacy (RLITs), practical skills (RPs), application of knowledge through context questions (RCQs) and subject knowledge (EUTs). In addition they will be given a Mid-year exam (MYE) that covers the content of the year 9 course and the Autumn term units in year 10. The MYE assesses skills as well as subject knowledge and application.</i></p>				
	<p>In June students will be given an exam that assesses skills, subject knowledge and application of content covered in year 9 as well as year 10</p>		<p>In November and March students will be given a Mock exam that assesses skills, subject knowledge and application of content covered in years 9 & 10 as well as year 11. The first Mock exam is used to inform predicted grades for the summer.</p>		
	Units	Assessments	Units	Assessments	
Autumn	<p>10.1 Atomic Structure</p> <p>Students will study the basic structure of an atom and isotopes as well as the history of the development of the Bohr atom.</p>	<p>End of Unit test (unit 10.1) – optional</p> <p>RLIT; The history of the development of the nuclear atom</p>	<p>11.8 Structure & bonding</p> <p>Students will study ionic, covalent & metallic bonding & relate the structure & bonding of compounds to their properties.</p>	<p>End of Unit test (unit 11.8) – optional RLIT; Explaining ionic & covalent bonding</p>	
	<p>10.2 The Periodic Table</p> <p>Students will gain a basic understanding of the Periodic Table and study two key groups; the alkali metals & halogens. They will study the historical events that led to the development of the modern day periodic table including the contributions made by Dalton, Newlands, Mendeleev & Mosley.</p>	<p>End of Unit test (unit 10.1 & 10.2)</p> <p>RLIT; The history of the development of the Periodic Table</p>	<p>Y11 November Mock exam Paper 1</p>	<p>11.9 Rate of Reaction</p> <p>Students will learn about collision theory and investigate ways to increase the rate of a chemical reaction</p>	<p>End of Unit test (Unit 11.9) – optional RP; Rates of reaction</p>
	<p>10.3 Ionic and metallic bonding</p> <p>Students will study ionic and metallic bonding and relate the structure and bonding of metals and ionic compounds to their properties.</p>	<p>End of Unit test (unit 10.3) – optional RLIT;</p> <p>Explaining ionic bonding and the properties of ionic compounds</p>	<p>11.10 Crude oil and Organic Chemistry</p> <p>Students will study hydrocarbons and oil refining including the key processes of fractional distillation, and cracking.</p>	<p>End of Unit test (unit 11.10) – optional RLIT; Explaining fractional distillation RLIT; Cracking alkanes</p>	

	Mid Year January Exam – including units from year 9		Y11 March Mock Exam Paper 2 – including units from year 9	
Spring	10.4 Acids and Bases Students will gain a basic understanding of neutralisation & the pH scale. They will investigate different approaches to making salts. Higher tier students will study strong & weak acids.	End of Unit test (Unit 10.4) – optional RP; Making salts	11.11 Electrolysis & Chemical equilibrium Students will be introduced to electrolysis and apply this to the extraction of aluminium from its ore and the production of hydrogen, chlorine and sodium hydroxide from brine. Higher tier students will study the extraction copper from high & low grade copper ores using electrolysis and bioleaching respectively. Students will study the effects of changing the conditions or reversible reaction on the percentage yield and equilibrium position.	End of Unit test (unit 11.11) – optional RP; Electrolysis
	10.5 Quantitative Chemistry Students will be taught how to calculate concentration and mass of solute. Higher tier students will be introduced to the mole & apply this to calculations involving reacting masses.	End of Unit test (unit 10.4 & 10.5)	Revision and exam practice	
Summer	10.6 Metals & Alloys Students will learn about the reactivity series & use this to develop an understanding of the different methods of extracting metals from ores. They will evaluate the methods of reducing the use & waste of metal ores in short supply. They will also evaluate the composition & use of different alloys.	End of Unit test (unit 10.6) – optional RCQ; Extracting metals		
	End of Year June Exam – including units from Year 9			
	10.7 Energy Changes Students will study energy transfers during changes of state. They will be introduced to exothermic and endothermic reactions and their applications. Higher tier students will calculate the energy released or absorbed during reactions.	End of Unit test (unit 10.7) – optional RP; Energy changes RCQ; Bond energy calculations		