

Chemistry Overview – Combined Science

Year 11						
	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Topic	· Groups in the Periodic Table	· Rates of Reaction	· Heat Energy Changes in Chemical Reactions	· Fuels	· Earth and Atmospheric Science	
Key concept	Materials and their properties	Chemical changes	Chemical changes	Chemical changes	Our Earth and its atmosphere	
Learning Objectives	· Describe the nature of atoms and ions. · Describe the properties and reactions of the groups 1, 7 and 0.	· Explain how changes in conditions can affect the rates of reactions.	· Describe the energy transfers that can occur during chemical reactions.	· Describe how the hydrocarbons found in crude oil and natural gas can be separated. · Describe the alkanes as an example of a homologous series. · Describe how and why cracking of oil is carried out.	· Explain how the Earth's atmosphere has changed in the past and how it is changing now.	
Scaffolding SEND	glossaries, targeted questions, knowledge organisers, recall quizzes	glossaries, targeted questions, knowledge organisers, recall quizzes	glossaries, targeted questions, knowledge organisers, recall quizzes	glossaries, targeted questions, knowledge organisers, recall quizzes	glossaries, targeted questions, knowledge organisers, recall quizzes	glossaries, targeted questions, knowledge organisers, recall quizzes
Key Vocabulary	halogens, diatomic, oxidation, reduction, displacement reactions, activation energy, exothermic, endothermic	halogens, diatomic, oxidation, reduction, displacement reactions, activation energy, exothermic, endothermic	halogens, diatomic, oxidation, reduction, displacement reactions, activation energy, exothermic, endothermic	finite resources, hydrocarbons, petrochemicals, viscosity, fractional distillation, homologous series, correlation	finite resources, hydrocarbons, petrochemicals, viscosity, fractional distillation, homologous series, correlation	

Formative Assessment	6 mark question with teacher feedback	6 mark question with teacher feedback	6 mark question with teacher feedback	6 mark question with teacher feedback	6 mark question with teacher feedback	
Summative Assessment	End of unit test	End of unit test	End of unit test	End of unit test	End of unit test	
Careers	sports scientist, robotist, aeronautical engineer	lab technician, telecoms technician	geoscientist, kinesiologist	robotist, aeronautical engineer	Forensic scientist, lab technician, geoscientist	
Links	<p>To build on the nature of atoms and ions.</p> <p>To prepare for specific properties of elements in groups 1, 7 and 0.</p>	<p>To build on what happens in chemical reactions.</p> <p>To prepare for how conditions affect the rates of reactions.</p>	<p>To build on fuels and energy sources.</p> <p>To prepare for the separating techniques involved in fractional distillation.</p>	<p>To build on the combustion of fuels.</p> <p>To prepare for the structure and function of alkanes and alkenes.</p>	<p>To build on the properties of polymers.</p> <p>To prepare for describing the disposal and the recycling of polymers.</p>	