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 	 Hydrocarbons Alcohols and Carboxylic Acids 	· Polymers	 Qualitative Analysis Properties of Matter 				
Key concept	Materials and their properties	Our Earth and its atmosphere	Chemical changes	Chemical changes	Materials and their properties				
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. 	 Describe the structure and properties of alkanes and alkenes. Describe how to obtain a concentrated solution of ethanol from carbohydrates. Describe the structure and chemical properties of alcohols and carboxylic acids. 	 Show the compositions of biological polymers and describe how other polymers are made. Discuss the disposal and recycling of polymers. 	 State how to identify metal ions. Describe instrumental methods of analysis and their advantages. Describe how to compare the physical properties of different materials. Describe nanoparticles and their properties, uses and possible risks. 				
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			

Chemistry Overview

Key Vocabulary	halogens, diatomic, oxidation, reduction, displacement reactions, activation energy, exothermic, endothermic	finite resources, hydrocarbons, petrochemicals, viscosity, fractional distillation, homologous series, correlation	functional group, unsaturated, saturated, combustion, fermentation, ethanoic acid, polymerisation	functional group, unsaturated, saturated, combustion, fermentation, ethanoic acid, polymerisation	emission spectra, flame photometer, halides, anions, transparent, opaque, tensile, nanoparticulate
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	To build on the nature of atoms and ions. To prepare for specific properties of elements in groups 1, 7 and 0.	To build on fuels and energy sources. To prepare for the separating techniques involved in fractional distillation.	To build on the combustion of fuels. To prepare for the structure and function of alkanes and alkenes.	To build on the properties of polymers. To prepare for describing the disposal and the recycling of polymers.	To build on properties of metals and composite materials. To prepare for the properties and uses of nanoparticles.