Chemistry Paper 2: HIGHER **20th June**

Unit	Section	Content
The rate and extent of chemical change	**5.6.1** Rate of Reaction	-Calculating the rate of a reaction -Calculate the gradient of a tangent to the curve on these graphs as a measure of rate of reaction at a specific time. -Describe collision theory -Define activation energy -Describe and explain the factors that increase the rate of reaction -Describe and explain the effect of catalysts on rate of reaction
	Required Practical 11: investigate how concentration affects the rates of reaction by a method involving measuring the volume of a gas produced/change in colour	-identify independent, dependent and control variables -describe how to measure the dependent variable -analyse results and draw conclusions from graphed data -calculate rate of reaction from data
	5.6.2 Reversible reactions and dynamic equilibrium	-Identify and give examples of reversible reactions -Apply the conservation of energy to reversible reactions -Define dynamic equilibrium -Describe Le Chatelier's principle -Describe and explain the effect of changing the following conditions on equilibrium; concentration, temperature, pressure
Organic chemistry	**5.7.1 C**arbon compounds as fuels and feedstock	-describe crude oil as a mixture of different length hydrocarbons -define the term hydrocarbon -identify the first 4 alkanes from their chemical formula and name them -Describe the trend in properties as hydrocarbon chain length increases -Describe and explain the process of fractional distillation -describe the process of cracking -describe the use of alkenes
Chemical Analysis	**5.8.1** Purity, formulations and chromatography	-Define the term pure substance in chemistry -Use melting and boiling point data to identify pure and impure substances -Define the term formulation and give examples
	Required Practical 12: investigate how paper chromatography can be used to separate and tell the difference between coloured substances.	-Describe the properties of the mixtures that chromatography can be used to separate -Describe and explain the experimental process of chromatography -Explain how substances are separated using chromatography -Interpret chromatograms + -Calculate Rf values
Chemistry of the atmospher	**5.9.1** The composition and evolution of the Earth's Atmosphere	-describe the composition of the current atmosphere -describe the composition of the early atmosphere and explain theories of how the early atmosphere formed -explain how the early atmosphere changed to that of the present atmosphere
Using resources	**5.10.1** Using the Earth's resources and obtaining potable water	-Describe the renewable and non-renewable resources that we get form the Earth and its atmosphere -Define the term potable water -Describe how potable water can be produced. -Describe the differences in the treatment of waste water, salt water and ground water -Describe and evaluate alternative methods of extracting metals e.g. phytomining and bioleaching