

Required Practical's

Required Practical Number	Title	Topic	RAG
1	Prepare a salt from an insoluble metals carbonate or oxide Prepare with the appropriate apparatus and techniques, a pure, dry sample of a soluble salt from an insoluble carbonate or oxide	C5.5 C5.6	
2 (triple only)	Use titration to investigate reacting volumes <i>Use titration to find out how much of an acid is needed to completely react with an alkali</i>	C4.7	
3	Investigate the electrolysis of a solution Investigate the electrolysis of different aqueous solutions using inert electrodes	C6.4	
4	Investigate temperature changes Use appropriate apparatus to investigate the variables that affect energy changes in reactions involving at least one solution	C7.1	
5	Investigating the effect of concentration on rate of reaction Investigate how changes in concentration affect rates of reactions using a method involving measuring the volume of a gas produced and a method involving a change in colour or turbidity	C8.4	
6	Calculating R_f values Use paper chromatography to find out the R _f value of the dyes found in different food colourings	C12.2	
7 (triple only)	Use chemical tests to identify unknown compounds <i>Use a range of chemical tests to identify negative and positive ions in ionic compounds</i>	C12.5	
8	Purify and test water Analyse and purify water from different sources, including pH, dissolved solids and distillation.	C14.2	

Chemistry Paper 1 – 16th May

Chapter	Topic	Page	RAG
C1 Atomic structure	C1.1	Atoms	
	C1.2	Chemical equations	
	C1.3	Separating mixtures	
	C1.4	Fractional distillation and paper chromatography	
	C1.5	History of the atom	
	C1.6	Structure of the atom	
	C1.7	Ions, atoms, and isotopes	
	C1.8	Electronic structures	
C2 The periodic table	C2.1	Development of the periodic table	
	C2.2	Electronic structures and the periodic table	
	C2.3	Group 1 – The alkali metals	
	C2.4	Group 7 – The halogens	
	C2.5	Explaining trends	
	C2.6	<i>The transition elements (triple only)</i>	
C3 Structure and bonding	C3.1	States of matter	
	C3.2	Atoms into ions	
	C3.3	Ionic bonding	
	C3.4	Giant ionic structures	
	C3.5	Covalent bonding	
	C3.6	Structure of simple molecules	
	C3.7	Giant covalent structure	

	C3.8	Fullerenes and graphene		
	C3.9	Bonding in metals		
	C3.10	Giant metallic structures		
	C3.11	<i>Nanoparticles (triple only)</i>		
	C3.12	<i>Applications of nanoparticles (triple only)</i>		
C4 Chemical calculations	C4.1	Relative masses and moles		
	C4.2	Equations and calculations		
	C4.3	From masses to balanced equations		
	C4.4	<i>The yield of a chemical reaction (triple only)</i>		
	C4.5	<i>Atom economy (triple only)</i>		
	C4.6	Expressing concentration		
	C4.7	<i>Titrations (triple only)</i>		
	C4.8	<i>Titration calculations (triple only)</i>		
	C4.9	<i>Volumes of gases (triple only)</i>		
C5 Chemical changes	C5.1	The reactivity series		
	C5.2	Displacement reactions		
	C5.3	Extracting metals		
	C5.4	Salts from metals		
	C5.1	The reactivity series		
	C5.5	Salts from insoluble bases		
	C5.6	Making more salts		
	C5.7	Neutralisation and the pH scale		
	C5.8	Strong and weak acids		
C6 Electrolysis	C6.1	Introduction to electrolysis		
	C6.2	Changes at the electrodes		
	C6.3	The extraction of aluminium		
	C6.4	Electrolysis of aqueous solutions		
C7 Energy changes	C7.1	Exothermic and endothermic reactions		
	C7.2	Using energy transfers from reactions		
	C7.3	Reaction profiles		
	C7.4	Bond energy calculations		
	C7.5	<i>Chemical cells and batteries (triple only)</i>		
	C7.6	<i>Fuel cells (triple only)</i>		

Chemistry Paper 2 – 12th June

Chapter	Topic	Page	RAG	
C8 Rates and equilibrium	C8.1	Rate of reaction		
	C8.2	Collision theory and surface area		
	C8.3	The effect of temperature		
	C8.4	The effect of concentration and pressure		
	C8.5	The effect of catalysts		
	C8.6	Reversible reactions		
	C8.7	Energy and reversible reactions		
	C8.8	Dynamic equilibrium		
	C8.9	Altering conditions		
C9 Crude oil and fuels	C9.1	Hydrocarbons		
	C9.2	Fractional distillation of oil		
	C9.3	Burning hydrocarbon fuels		
	C9.4	Cracking hydrocarbons		
C10 Organic reactions	C10.1	<i>Reactions of alkenes (triple only)</i>		
	C10.2	<i>Structures of alcohols, carboxylic acids and esters (triple only)</i>		
	C10.3	<i>Reactions and uses of alcohols (triple only)</i>		
	C10.4	<i>Carboxylic acids and esters (triple only)</i>		

C11 Polymers	C11.1	<i>Addition polymerisation (triple only)</i>		
	C11.2	<i>Condensation polymerisation (triple only)</i>		
	C11.3	<i>Natural polymers (triple only)</i>		
	C11.4	<i>DNA (triple only)</i>		
C12 Chemical analysis	C12.1	Pure substances and mixtures		
	C12.2	Analysing chromatograms		
	C12.3	Testing for gases		
	C12.4	<i>Tests for positive ions (triple only)</i>		
	C12.5	<i>Tests for negative ions (triple only)</i>		
	C12.6	<i>Instrumental analysis (triple only)</i>		
C13 The earth's atmosphere	C13.1	History of our atmosphere		
	C13.2	Our evolving atmosphere		
	C13.3	Greenhouse gases		
	C13.4	Global climate change		
	C13.5	Atmospheric pollutants		
C14 The earth's resources	C14.1	Finite and renewable resources		
	C14.2	Water safe to drink		
	C14.3	Treating waste water		
	C14.4	Extracting metals from ores		
	C14.5	Life cycle assessments		
	C14.6	Reduce, reuse and recycle		
C15 Using our resources	C15.1	<i>Rusting (triple only)</i>		
	C15.2	<i>Useful alloys (triple only)</i>		
	C15.3	<i>The properties of polymers (triple only)</i>		
	C15.4	<i>Glass, ceramics and composites (triple only)</i>		
	C15.5	<i>Making ammonia – the Haber process (triple only)</i>		
	C15.6	<i>The economics of the Haber process (triple only)</i>		
	C15.7	<i>Making fertilisers in the lab (triple only)</i>		
	C15.8	<i>Making fertilisers in industry (triple only)</i>		