Triple Science – Chemistry

Topic	Done in Class	RAG	Revised	RAG
C1 Atomic Structure – Paper 1				
Atoms				
Chemical Equations				
Separating Mixtures				
Fractional Distillation and Paper Chromatography				
History of the Atom				
Structure of the Atom				
Iona, Atoms and Isotopes				
Electronic Structures				
C2 The Periodic Table – Paper 1				
Development of the Periodic Table				
Electronic Structures and the Periodic Table				
Group 1 – The Alkali Metals				
Group 7 – The Halogens				
Explaining Trends				
The transition elements				
C3 Structure and Bonding – Paper 1				
States of Matter				
Atoms into Ions				
Ionic Bonding				
Giant Ionic Structures				
Covalent Bonding				
Structure of simple Molecules				
Giant Covalent Structures				
Fullerenes and Graphene				
Bonding in Metals				
Giant Metallic Structures				
Nanoparticles				
Applications of nanoparticles				
C4 Chemical Calculations – Paper 1				
Relative Masses and Moles				
Equations and Calculations (HT)				
From Masses to Balanced Equations (HT)				
The yield of a chemical reaction				
Atom economy				
Expressing Concentration				
Titrations				
Titration calculations (HT)				
Volumes of gases (HT)				

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C5 Chemical Changes – Paper 1				
The Reactivity Series				
Displacement Reactions				
Extracting Metals				
Salts from Metals				
Salts from Insoluble Bases				
Making More Salts				
Neutralisation and the pH Scale				
Strong and Weak Acids (HT)				
C6 Electrolysis – Paper 1				
Electrolysis Basics				
Changes at the Electrodes				
The Extraction of Aluminium				
Electrolysis of Aqueous Solutions				
C7 Energy Changes – Paper 1				
Exothermic and Endo thermic Reactions				
Using Energy Transfers from Reactions				
Reaction Profiles				
Bond Energy Calculations (HT)				
Chemical cells and batteries				
Fuel cells				

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C8 Rates and Equilibrium – Paper 2				
Rate of Reaction				
Collision Theory and Surface Area				
The Effect of Temperature				
The effect of Concentration and Pressure				
The Effect of Catalysts				
Reversible Reactions				
Energy and Reversible Reactions				
Dynamic Equilibrium				
Altering Conditions (HT)				
C9 Crude Oil and Fuels – Paper 2				
Hydrocarbons				
Fractional Distillation of Oil				
Burning Hydrocarbon Fuels				
Cracking Hydrocarbons				
C10 Organic reactions – Paper 2				
Reactions of alkenes				
Structures of alcohols, carboxylic acids and esters				
Reactions and uses of alcohols				
Carboxylic acids and esters				
C11 Polymers – Paper 2				
Addition polymerisation				
Condensation polymerisation (HT)				
Natural polymers				
DNA				
C12 Chemical Analysis – Paper 2				
Pure Substances, Mixtures and Formulations				
Analysing Chromatograms				
Testing for Gases				
Testing for positive ions				
Testing for negative ions				
Instrumental analysis				
C13 The Earth's Atmosphere – Paper 2				
History of Our Atmosphere				
Our Evolving Atmosphere				
Greenhouse Gases				
Global Climate Change				
Atmospheric Pollutants				
C14 The Earth's Resources – Paper 2				
Finite and Renewable Resources				
Water Safe to Drink				
Treating Waste Water				
Extracting Metals from Ores (HT)				
Life Cycle Assessments				
Reduce, Reuse, Recycle				

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C15 The Earth's Resources – Paper 2				
Rusting				
Useful alloys				
The properties of polymers				
Glass, ceramics and composites				
Making ammonia – The Haber process				
The economics of the Haber process (HT)				
Making fertilisers in the lab				
Making fertilisers in industry				

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Required practicals paper 1				
Neutralisation (chemical calculations)				
Making salts (chemical changes)				
Electrolysis (electrolysis)				
Temperature Changes (energy changes)				
Required practicals paper 2				
Rates of reaction (rates and equilibrium)				
Chromatography (chemical analysis)				
Identifying ions (chemical analysis)				
Water purification (the Earth's resources)				