The Five Year Curriculum: Chemistry

TPS The Petersfield School

Year 11

Revision (AQA)

Practical skills · Past papers · Exam technique · 4/6 mark answers

Atmosphere

Global climate change · Greenhouse gases · Gases in the Atmosphere · The Earth's Early Atmosphere

Using resources

Sustainable development · Ways of reducing resource use · recycling · Life cycle assessment · Waste and water treatment

Organic Chemistry

DNA · Polymerisation · Amino acids · Organic acids · Alcohols · Hydrocarbons · Alkenes · Cracking · Separating Crude Oil · Crude Oil

Rates 2

Making fertiliser · Equilibrium · Reversible reactions · Atom economy

Paper 1:
- Atomic structure and Periodic Table
- Bonding, structure and properties of matter
- Quantitative chemistry
- Chemical Changes
- Energy Changes

Paper 2:
- Rate and extent of chemical change
- Organic chemistry
- Chemical analysis
- Chemistry of the atmosphere,
- Using resources

Year 10

Chemical Analysis

Pure substances and formulations · Fuel cells & batteries · Flame tests · Testing for ions · Instrumental analysis

Quantitative Chemistry

Chemical measurements · Amount of substances and masses of reactants · Relative formula mass · Moles · Concentration of solutions · Percentage yield

Chemical Changes

Gas Tests · Strong and weak acids · Neutralisation of acids and salt production · The pH scale and neutralisation · Oxidation and Reduction · Reactions of acids with metals · Extraction of metals · The reactivity series

Atomic structure 2

Transition metals · Trends · Group 1 & 7 · Developing periodic table

Year 9

Atomic Structure 1

Alternative methods of extracting metals · Electrolysis to extract metals · Electrolysis of solutions · Electrolysis of liquids · Electronic structures · Ions & isotopes · Structure of atom · Atoms

Bonding Structure & Properties

Ionic bonding · Ionic structures · Nanoparticles · Alloys · Covalent · Metallic bonding · Covalent structures

Energy Changes

Bond energy · Exothermic a endothermic · Energy graphs

Rates 1

Separating mixtures · Catalysts · Factors affecting rates · Collision theory · Calculating rates of reactions

Fundamental skills

Recycling · Global Warming · Carbon Cycle · Types of Rock · Layers of the Earth · Evaluation · Polymers · Metal Ores & extraction · Formation of Sedimentary Rocks

The Changing Earth

Reactions of acids · Common Acids · Exothermic & Endothermic · Acids & Alkalis

Year 8

Atoms and The Periodic Table

Physical and chemical properties of a metal and non metal · Reactivity of metals with oxygen and water · Metals and Non-metals · The Periodic Table · Properties of metals · Group 1, Group 7 on The Periodic Table.

Chemical Reactions

Chemical & Physical Changes · Reactants & Products · Signs of Chemical Changes · Conservation of mass · Chemical formulae & equations · Testing for common gases

Year 7

Particles

Solute,solvent and solutions · Separating mixtures · Movement of particles and diffusion · Atoms, elements and compounds · Changes of state · States of matter

Safety in a Science lab

Health and Safety · Investigation skills · Practical skills · Identifying equipment