Altwood
Church of England School

Chemistry Curriculum Map

Year 7 — **Teach – Boost – Teach – Diagnosis – Therapy - Testing** — Year 11

Exam & Post – 16 Destination

YEAR 7

Acids and Alkalis

- Burning fuels
- Thermal decomposition
- Word equations
- Chemical reactions
- Types of chemical reactions overview
- Exothermic and endothermic
- Conservation of mass

Chemical Reactions

- Compounds
- Atoms
- Elements
- Mixtures (with particles diagrams)
- EAC review and skittles
- Chemical Formulae

Atoms, Elements and Compounds

- More changes of state
- Boiling
- Melting and freezing
- Density
- States of matter
- The particle model
- Gas pressure

Particles

YEAR 8

- Neutralisation
- Acids and alkalis
- Indicators and pH
- Making Salts

- Mixtures
- Solutions
- Solubility
- Filtration
- Evaporation and distillation
- Chromatography

YEAR 9

Metals and Resources

- Metals and non-metals
- Groups and periods
- Acids and metals
- Metals and oxygen
- Recycling
- Metals and water
- Metal displacement reactions
- Extracting metals

Separating Techniques

YEAR 10

Calculations in Chemistry

- Equations and calculations (H)
- From masses to balanced equations (H)
- Expressing concentrations
- Relative masses and moles

Chemical Changes

- The reactivity series
- Displacement reactions
- Salts from insoluble bases
- Making more salts
- Neutralisation and the pH scale
- CAP: Making Salts
- Extracting metals
- Salts from metals
- Strong and weak acids

Electrolysis

- Electrolysis of aqueous solutions
- CAP: Electrolysis
- Introduction to electrolysis
- Changes at the electrodes
- Extraction of aluminium

Energy Changes

- Exothermic and endothermic reactions
- CAP:Temperature changes
- Reaction profiles
- Bond energy calculations (H)
- Using energy transfer from reactions

YEAR 11

The Earth's Resources

- Life cycle assessments
- Reduce, reuse and recycle
- Finite and renewable resources
- Water safe to drink
- Treating waste water
- CAP: Water purification
- Extracting metals from ores(H)

Rates and Equilibrium

- Rates of reaction
- Collision theory and surface area
- The effect of temperature
- The effect of concentration or pressure
- The effect of catalysts
- Reversible reactions
- Energy and reversible reactions
- Dynamic equilibrium
- CAP: Rates of reaction
- Altering conditions (H)

The Earths Atmosphere

- Greenhouses gases
- Global Climate change
- Atmosphere Pollutants
- Our evolving atmosphere
- History of our Atmosphere

Crude Oil and Fuels

- Fractional distillation
- Cracking hydrocarbons
- Burning hydrocarbon fuels
- Hydrocarbons

Atomic Structure

- Atom
- Chemical equations
- History of the atom
- Electronic structures
- Ions, atoms and isotapes
- Structure of the atom

Structure and Bonding

- States of matter
- Atoms into ions
- Ionic bonding
- Giant ionic bonding
- Covalent bonding
- Giant Metallic Structures
- Bonding in metals
- Fullerens and Graphenes
- Giant covalent structures
- Structure of Simple moelcules

Chemical Analysis

- Fractional distillation and paper chromatography
- Analysing Chromatograms
- Testing for Gases
- CAP Chromatograms
- Seperating mixtures
- Pure Substance and Mixtures

The Periodic Table

- Development of the periodic table
- Group 7- the halogens
- Explaining trends
- Group 1- the alkali metals
- Electronic structures and the periodic table

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