



CHEMISTRY





YEAR 7

- 1. HOW SCIENCE WORKS**
 - Safety in the laboratory
 - Investigations
 - Variables
- 2. MATTER**
 - Particle model
 - Changing states
 - Separation techniques
- 3. REACTIONS**
 - Periodic table
 - Metals and non-metals
 - Chemical reactions
 - Physical changes
- 4. THE EARTH**
 - The atmosphere
 - Testing gases
 - Earth structure
 - Rocks
- 5. PROPERTIES OF MATERIALS**
 - Metals
 - Plastics
 - Alloys
 - Ionic and covalent structures


GCSE

YEAR 9

- 2. PERIODIC TABLE AND BONDING**
 - Metal structure
 - Metal reactions
 - Ionic compounds
 - Covalent compounds
 - Development of the periodic table
- 1. STATES OF MATTER**
 - Elements, compounds and mixtures
 - Relative atomic mass
 - Moles
 - Chemical yields
- 9. COLOUR CHEMISTRY**
 - Chromatography
 - Calculating concentrations
 - Balancing equations
- 8. ELEMENTS**
 - The periodic table
 - Patterns in groups
 - Oxidation
 - Metal reactions
- 7. ACIDS AND BASES**
 - Chemical indicators
 - Neutralisation
 - Concentrations
 - Metals and acids
- 6. CHEMICAL ENERGY**
 - Combustion
 - Chemical changes
 - Exothermic and endothermic reactions
 - Chemical equations

- 3. NEUTRALISATION**
 - Making salts
 - Titrations
 - Quantitative chemistry
- 4. ENERGY CHANGES**
 - Bond energy
 - Reaction profiles
 - Fuel cells
- 5. ELECTROLYSIS**
 - Products of electrolysis
 - Extraction of aluminium
- 6. HYDROCARBONS**
 - Fractional distillation
 - Cracking
 - Complete and incomplete combustion
 - Polymers
- 7. EARTH'S RESOURCES**
 - Materials chemistry
 - Water
 - Reduce, reuse and recycle
- 8. CHEMICAL ANALYSIS**
 - Formulations
 - Testing for gases

A LEVEL

- 4. PHYSICAL CHEMISTRY AND TRANSITION ELEMENTS**
 - Rates
 - Equilibrium
 - Acid-base chemistry
 - Enthalpy and entropy
 - Redox chemistry
 - Electrochemical cells
 - Transition metals
- 3. CORE ORGANIC CHEMISTRY**
 - Isomerism and organic functional groups
 - Aliphatic hydrocarbons
 - Alcohols and haloalkanes
 - Analytical techniques
 - Nomenclature
- 2. PERIODIC TABLE AND ENERGY**
 - Periodicity
 - Group 2
 - Enthalpy changes
 - Rates of reaction and enthalpy changes
- 1. FOUNDATIONS IN CHEMISTRY**
 - Atomic structure
 - Quantitative chemistry
 - Bonding and structure
 - Reactions of acids
 - Redox
- 11. EQUILIBRIUM**
 - Reversible reactions
 - Le Chatelier's principle
- 10. RATES**
 - Collision theory
 - Factors affecting rates of reaction

- 5. ORGANIC CHEMISTRY AND ANALYSIS**
 - Aromatic compounds
 - Carboxylic acids and esters
 - Organic nitrogen compounds
 - Polymer chemistry
 - Synthetic chemistry
 - Analytical techniques

