



Curriculum Plans – Year 10 – Chemistry – Academic Year 2023/24

Please find below a detailed outline of the curriculum covered in *Science* through Year 10 in Key Stage 4.

BLOCK	1	2	3	4	5	6	7
Dates	28th August - 27th September (5 weeks)	2nd October - 27th October (4 weeks)	6th November - 15th December (6 weeks)	3rd January - 2nd February (5 weeks)	12th February - 22nd March (6 weeks)	2nd April - 26th April (4 weeks)	6th May - 21st June (7 weeks)
Topics	States of Matter (Unit 1) <ul style="list-style-type: none"> • Solids, liquids and gases • Diffusion • Practical skills (heating curves) Atoms, Elements and Compounds and Bonding (Unit 2) <ul style="list-style-type: none"> • Elements, compounds and mixtures • Separation techniques • Atomic structure and the Periodic Table • Isotopes • Ions and ionic bonds • Simple molecules and covalent bonds • Giant covalent structures • Metallic bonding 	Stoichiometry - Moles (Unit 3) <ul style="list-style-type: none"> • Formulae • Relative masses of atoms and molecules • The mole and Avogadro constant • Molar gas volume • Concentration • Titration • Empirical and molecular formulae • Percentage yield, percentage composition by mass and percentage purity • Practical skills (titration) 	Metals (Unit 9) <ul style="list-style-type: none"> • Properties of metals • Uses of metals • Alloys and their properties • Reactivity series • Corrosion of metals • Extraction of metals • Practical skills (displacement with carbon) Electrochemistry (Unit 4) <ul style="list-style-type: none"> • Redox (Unit 6) • Electrolysis of molten ionic compounds • Electrolysis of aqueous ionic compounds • Half equations • Hydrogen-oxygen fuel cells • Practical skills (electrolysis) 	Chemical Energetics (Unit 5) <ul style="list-style-type: none"> • Physical and chemical changes • Exothermic and endothermic reactions • Reaction pathway diagram • Enthalpy change • Activation energy • Bond energy calculations • Practical skills 	Chemical Reactions (Rate and Equilibrium) (Unit 6) <ul style="list-style-type: none"> • Rate of reaction • Factors affecting the rate of reaction: temperature, concentration, surface area, catalysts, gas pressure • Collision theory • Reversible reactions and equilibrium • Practical methods • Redox 	Acids, bases and salts (Unit 7) <ul style="list-style-type: none"> • The characteristic properties of acids and bases • Oxides • Preparation of salts • Titration • Practical skills 	The Periodic Table (Unit 8) <ul style="list-style-type: none"> • Arrangement of elements • Group I properties • Group VII properties • Transition elements • Noble gases • Practical skills <p>End of Y10 Assessment</p> <p>Revision of Y10</p>
Assessments	Unit 1 and 2 Assessment	Unit 1-3 Assessment	Unit 1-4 + 9 Assessment	Unit 1-5 + 9 Assessment	Unit 1-6 + 9 Assessment	Unit 1-7 + 9 Assessment	End of Y10 Assessment
Academic Theme	Planning for Tomorrow	The World around us	Better Together	The Working World	Opportunities for Everyone	Keep it Green, Keep it Clean	Healthy Body, Healthy Mind