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) ● Solids, liquids and gases ● Diffusion ● Practical skills (heating curves) **Atoms, Elements and Compounds and Bonding** (Unit 2) ● 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) ● 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) ● 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) ● 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) ● 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) ● 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) ● The characteristic properties of acids and bases ● Oxides ● Preparation of salts ● Titration ● Practical skills	**The Periodic Table** (Unit 8) ● Arrangement of elements ● Group I properties ● Group VII properties ● Transition elements ● Noble gases ● Practical skills **End of Y10 Assessment** **Revision of Y10**
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