

KS4 YEAR 10 Chemistry Curriculum

YEAR 10 Curriculum Intent: To encourage the curiosity to wonder why and how things work, and to provide skills and knowledge to find the answer.

BOLD – Chemistry ONLY

	Autumn Term			Spring Term			Summer Term		
Main Topic	C1 Atomic Structure and The Periodic Table C2 Structure and Bonding C4 Chemical Changes			C4 Chemical Changes C5 Energy Changes			C3 Quantitative Chemistry C6 Rates of reaction		
Key Concepts	Structure of the atom Patterns in the periodic table Transition metals.	Metallic Ionic Covalent States of matter Nanotechnology	Reactions of acids Reactivity of metals	Neutralisation Electrolysis.	Exothermic endothermic	Chemical cells Fuel cells.	Relative formula mass. Avogadro constant Moles	Reacting masses Concentration Empirical formulae Percentage yield Atom Economy Gas Volumes	Collision Theory Factors affecting rate.
Curriculum links	7C1 The Particle Model 8P1 – Non contact forced. 7C2 Periodic Table 8C1 – Pure and impure 9C1 – Atomic Model 9C2 – Periodic Table P3 – Particle Model P4 – Atomic Structure	7C1 Particle Model P3 Particle Model.	7C2 – Chemical Reactions 8C3 – Acids and bases. Neutralisation. 8B2 – Food and digestion. 9C2 – Reactions. C1 – Reactivity of Group 1 metals B2 – Organisation	7C2 – Chemical Reactions 8C3 – Acids and bases. 8B2 – Food and digestion. P2 Electric circuits and electric current.	9C2 – Exo and endo P1 Energy 7B2 – Gas Exchange 9B1 – Bio energetics. B4 – Bio Energetics 7P3 – energy 7C2 – Fuels. C2 Bonding C4 – chemical reactions – reactants to products..	P2 – Electricity.	9C2 – Chemical Reactions. Balancing equations	7C2 – Conservation of mass 9C2 – Formulas, balancing equations and conservation of mass. B7 – Ecology – Crop yield.	8B2 – Nutrition and digestion. B3 Organisation. 7C2 – Chemical reactions 9C2 – Chemical Reactions, catalysts. B2 – Organisation – enzymes.
Cross-curricular links	Geography - Ores						Maths Rearranging equations.		
Interleaving of skills	Using model Explaining theories. Describing trends Graph skills Observations Writing equations Methods Choosing equipment Conclusions			Evaluating Conclusions Writing equations Variables. Graph skills Choosing appropriate equipment resolution			Calculations Units Unit conversation Calculating gradients.		

Literacy	Atom Ion Isotope Subatomic particle Nucleus Electron shell	Ionic Covalent Metallic Properties Intermolecular force. Bond Properties giant structure Small molecule Allotrope.	Acid Base Alkali indicator Reactivity Oxidation Reduction Redox Half equation Ionic equation Electrolysis Electrode Electrolyte. Molten Solution.	Exothermic Endothermic Activation energy Overall energy change Bond energy. Released Absorbed.	Cell Battery	Moles Relative conservation Avogadro constant Percentage Yield Atom economy Titration Concentration Volume Solution Solution Limiting reactants	Particle Successful Collision Frequency Catalysts Activation energy
Cultural capital	How ideas have changes over time. How metals are extracted from their ores.			Linked to health and digestion. Salts linked to Northwich. Salt on the road to make the ice melt. Uses of exo and endo reactions in everyday life.		Farming and crop yield Industrial processes – viability.	
Careers	Cancer research, Development chemistry, patent attorney. Doctor, dentist.			Head of research and sustainability		Investor relations manager. Finance and planning	
Assessment	C1 KMP C1 CKT C2 KMP C2 CKT C4 KMP			C4 CKT C5 CKT		C3 KMP C3 CKT MOCK 1 paper 1 C6 KMP	