

KS4 Year 11 Chemistry Curriculum

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

BOLD – Chemistry ONLY

	Autumn Term			Spring Term		Summer Term		
Main Topic	C6 Reversible reactions C7 Organic Chemistry C8 Chemical Analysis			C9 Chemistry of the atmosphere. C10 Earths Resources		Revision		
Key Concepts	Equilibria Le Chatelier's Principle Changing conditions	Carbon compounds as fuels and feedstock Reactions of alkenes and alcohols Synthetic and naturally occurring polymers.	Purity, formulations and chromatography Identify of common gases. Identification of ions by chemical and spectroscopic means.	Composition and evolution of the Earth's atmosphere. Carbon dioxide and methane as greenhouse gases. Common atmospheric pollutants and their sources.	Using the Earth's resources and obtaining potable water. Life cycle assessment and recycling. Using materials. Haber process and the use of NPK fertilisers.			
Curriculum links	7C1 – physical change. C5 – Rechargeable batteries. P4 Electricity.	7C2 – Combustion of fuels. 7P3 – Chemical energy.	8C1 – Chromatography.C1 – Methods of Separating mixtures	7C3 The Earths structure 8C2 Climate change 9C3 Earths resources 9B1 Bioenergetics B7 Ecology B4 Bioenergetics	8C1 – meaning of pure in chemistry 8C2 – recycling.. C6 Rates of reaction B7 – Ecology - fertilisers			
Cross-curricular links	D&T – Using materials			Geography - Earth Science Geography – pollution and the environment D&T – Using materials				
Literacy	Rate Collision Theory Frequency Le Chatelier's Principle. Catalyst Activation energy. Reversible Dynamic Equilibrium Conditions.	Crude oil Hydrocarbon. Homologous series. General formula. Alkane. Alkene. Saturated. Unsaturated. Polymer Alcohol Fermentation.	Pure Formulation Chromatography Gas tests Limewater Damp blue litmus Flame tests Precipitates Flame emission spectroscopy.	Composition Photosynthesis Proportion Theory Atmosphere Greenhouse gases Global warning Pollutant Toxic Vapour	Potable Sustainable Sustainable development Filter Sedimentation Sludge Effluent Distillation Desalination Extraction Finite Renewable Non-renewable Anaerobic			

		Carboxylic acid. Ester. Polymerisation Polyester			Aerobic Leachate Phytomining Bioleaching Corrosion Alloys Galvanise Polymer Ceramic Composite Fertiliser			
Cultural capital	Making chemical processes more efficient. Using fuels Making fuels Petrolchemical Industry. Analysis of substances – food/drink/dyes/drugs/fuels			Farming Water and sewage treatment works Materials in everyday life Metal ores Sustainability – awareness of the issues Recycling Global warming and acid rain				
Careers	Marine biochemist, pharmaceuticals, medicinal chemist, science publicist			Analytical Chemist, government advisor pollution control officer, Head of research and sustainability, toxicologists.				
Assessment	C7 KMP C7 CKT C8 KMP C8 CKT			C9 CKT C10 KMP C10 CKT MOCK 3 – Paper 2				