



### Chemistry Curriculum Learning Journey

Knowledge & Concepts increase students depth/ challenge and build on previous learning where topics are revisited throughout their learning journey

Due to facility and resource considerations, not all classes study the same topics at the same time. The table below depicts the content covered within each year group and also how the curriculum progresses where topics are revisited.

		<b>Year 7 (NEW C)</b>	<b>Year 8 (NEW C)</b>	<b>Year 9 (NEW C)</b>	<b>Year 10</b>	<b>Year 11</b>	<b>Year 12</b>	<b>Year 13</b>
Half Term 1	Topics	<b>Elements, atoms and compounds</b>	<b>(Reviewed in periodic table module)</b>	<b>Atomic structure</b>	<b>Bonding</b>	<b>Revision</b>	<b>Bonding and trends across periods</b>	<b>Electronegativity and trends across periods</b>
	Knowledge	Elements, atoms – basic Compounds, chemical formulae	Properties of elements	Particle model and inside atoms	Looking at bonding between metals and non-metals	Revision of all topics inc. elements, periodic table etc.	3D structures of compounds, trends across period 3 & grp 2 and 7	Transition metals, trends across period 3
Half Term 2	Topics	<b>Reactions</b>	<b>Reactions</b>	<b>Reactions</b>	<b>Reactions</b>	<b>Reactions</b>	<b>Reactions</b>	<b>Reactions</b>
	Knowledge	Simple reactions e.g. oxidation, exothermic & endothermic, and thermal decomposition	Neutralisation and making salts	Chemical and physical changes, including energy transfer	Making salts, balancing equations, and exo/endo reactions	Calculating product mass	Making compounds/mechanisms,	Polymerisation, inorganic compounds in aq. solutions, making compounds/mechanisms
Half Term 3	Topics	<b>Acids and alkali</b>	<b>Metal and acids</b>	<b>Metals and acids</b>	<b>Acids and alkali</b>	<b>Acids and alkali</b>	<b>Acids and alkali</b>	<b>Acids and alkali</b>
	Knowledge	pH scale	Determining reactivity series	Group 2 elements with acid	Dissociation, pH scale, ionic equations, displacement	Making fertilisers (TRIPLE)	Titration, calculations Reagents in organic	Buffers, reagents in organic, calculations



		Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
Half Term 4	Topics	<b>Materials</b>	<b>Materials</b>	<b>Materials</b>	<b>Materials</b>	<b>Materials</b>	<b>Materials</b>	<b>Materials</b>
	Knowledge	Particles and their behaviours	Ceramics, polymers and composites	Metals	Polymers (TRIPLE), making metals via electrolysis	Fertilisers, alloys, glass, ceramics & composites (TRIPLE)	Organic synthesis	Polymers (e.g. nylon practical), organic synthesis
Half Term 5	Topics	<b>Separation techniques</b>	<b>Separation techniques</b>	<b>Separation techniques</b>	<b>Separation techniques</b>	<b>Separation techniques</b>	<b>Separation techniques</b>	<b>Separation techniques</b>
	Knowledge	Differences between elements, compounds and mixtures	Chromatography, filtration, evaporation, distillation	Extracting metals and displacement reactions	Redox reactions to obtain pure metal, displacement	Difference in boiling points for condensing – Haber process (TRIPLE), testing for gases	Fractional distillation, displacement, precipitation reactions	Chromatography – drugs and amino acids
Half Term 6	Topics	<b>Equations</b>	<b>Equations</b>	<b>Equations</b>	<b>Equations</b>	<b>Equations</b>	<b>Equations</b>	<b>Equations</b>
	Knowledge	Word equations, and symbol (Easy)	Word and symbol	Balancing symbol equations	Balancing symbol equations and adding state symbols. Constructing ionic equations (TRIPLE)	Titration, calculations based on using balanced symbol equations to find product mass	Titration, calculating conc, analysing redox reactions and constructing half equations, balancing oxidation equations, equilibrium Kc, organic synthesis	Chelation, reactions of inorganic compounds in aq. solutions to form complex ions and balancing those, equilibrium equations for Kp/ Ka, organic synthesis