



**Curriculum Plans – Key Stage 5 Chemistry**

Please find below a detailed outline of the curriculum covered in Chemistry through Year 13 in Key Stage 5.

Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7
<p><b>Lattice energy</b> (Unit 19)</p> <ul style="list-style-type: none"> <li>• Lattice energy</li> <li>• Enthalpy change of atomisation and electron affinity</li> <li>• Born-Haber cycles</li> <li>• Factors affecting the value of lattice energy</li> <li>• Ion polarisation</li> <li>• Enthalpy changes in solution</li> </ul> <p><b>Electrochemistry</b> (Unit 20)</p> <ul style="list-style-type: none"> <li>• Redox reactions</li> <li>• Electrolysis</li> <li>• Quantitative electrolysis</li> <li>• Electrode potentials</li> <li>• Measuring standard electrode potentials</li> <li>• Using <math>E^\ominus</math> values</li> <li>• Cells and batteries</li> </ul> <p><b>Practical skills</b></p>	<p><b>Further aspects of equilibria</b> (Unit 21)</p> <ul style="list-style-type: none"> <li>• Ionic product of water</li> <li>• pH calculations</li> <li>• Dissociation constant</li> <li>• Indicators</li> <li>• Titrations</li> <li>• Buffers</li> <li>• Equilibrium and solubility</li> <li>• Partition coefficients</li> </ul> <p><b>Reaction kinetics</b> (Unit 22)</p> <ul style="list-style-type: none"> <li>• Factors affecting rate</li> <li>• Rate of reaction</li> <li>• Rate equations</li> <li>• Reaction orders</li> <li>• Rate constant</li> <li>• Reaction mechanisms</li> <li>• Catalysis</li> </ul> <p><b>Practical skills</b></p>	<p><b>Entropy and Gibbs free energy</b> (Unit 23)</p> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Spontaneous change</li> <li>• Calculating entropy changes</li> <li>• Entropy and temperature</li> <li>• Entropy, enthalpy and free energy</li> <li>• Gibbs free energy</li> </ul> <p><b>Transition elements</b> (Unit 24)</p> <ul style="list-style-type: none"> <li>• What are transition elements?</li> <li>• Physical properties</li> <li>• Redox reactions</li> <li>• Ligands and complex formation</li> </ul> <p><b>Benzene and its compounds</b> (Unit 25)</p> <ul style="list-style-type: none"> <li>• Benzene ring</li> <li>• Reactions of arenes</li> </ul> <p><b>Practical skills</b></p>	<p><b>MOCK exam</b></p> <p><b>Intervention</b></p> <p><b>Benzene and its compounds</b> (Unit 25)</p> <ul style="list-style-type: none"> <li>• Phenol and its reactions</li> </ul> <p><b>Carboxylic acids and their derivatives</b> (Unit 26)</p> <ul style="list-style-type: none"> <li>• Acidity</li> <li>• Oxidation</li> <li>• Acyl chlorides</li> </ul> <p><b>Organic nitrogen compounds</b> (Unit 27)</p> <ul style="list-style-type: none"> <li>• Amines</li> <li>• Formation of amines</li> <li>• Amino acids</li> <li>• Peptides</li> <li>• Reactions of amides</li> <li>• Electrophoresis</li> </ul> <p><b>Past papers and exam technique</b></p> <p><b>Practical skills</b></p>	<p><b>Polymerisation</b> (Unit 28)</p> <ul style="list-style-type: none"> <li>• Condensation polymerisation</li> <li>• Synthetic polyamides</li> <li>• Polyesters</li> <li>• Degradable polymers</li> </ul> <p>Polymer deductions</p> <p><b>Analytical chemistry</b> (Unit 29)</p> <ul style="list-style-type: none"> <li>• Chromatography</li> <li>• <math>H^1</math> NMR</li> <li>• <math>C^{13}</math> NMR</li> </ul> <p><b>Past papers and exam technique</b></p> <p><b>Practical skills</b></p> <p><b>Intervention</b></p>	<p><b>Revision lessons</b></p> <ul style="list-style-type: none"> <li>• Review of lattice energy</li> <li>• Review of electrochemistry</li> <li>• Review of equilibria</li> <li>• Review of reaction kinetics</li> <li>• Review of transition metals</li> <li>• Review of organic chemistry</li> <li>• Review of analytical chemistry</li> <li>• Paper 5 Practise</li> </ul> <p><b>Past papers and exam technique</b></p> <p><b>Practical skills</b></p> <p><b>Intervention</b></p>	<p><b>Revision lessons</b></p> <p><b>A2 Exam</b></p>
	Assessment	Assessment	<b>Internal Mock Cambridge A2 Exam</b>	Self-Assessment and Intervention	Self-Assessment and Exam Skills	<b>External Cambridge A2 Exam</b>
		Progress Data for Autumn Report		Mock Exam Data for Spring Report		
Academic Theme	Planning for Tomorrow	The World around us	Better Together	The Working World	Opportunities for Everyone	Keep it Green, Keep it Clean