









## Curriculum Overview for Chemistry

### Year 10 Term 3

<p><b>Half Term 5: Properties of bonding</b></p> <p><b>Substantive Knowledge:</b></p> <p>Describe and explain the physical properties of ionic compounds</p> <ul style="list-style-type: none"><li>Explain why ionic compounds have high melting/boiling points</li><li>Explain when ionic compounds can conduct electricity</li></ul> <p>Describe and explain the physical properties of simple covalent structures.</p> <ul style="list-style-type: none"><li>Explain why simple compounds have low melting/boiling points</li><li>Explain why simple covalent compounds cant conduct electricity.</li></ul> <p>Recognise polymers from diagrams.</p> <p>Describe and explain the melting points of polymers.</p> <p>Identify Graphene, fullerenes, graphite, diamond, silicon dioxide from diagrams.</p> <p>Describe the structure and bonding of Graphene and fullerenes, Graphite and Diamond</p> <p>Describe and explain the physical properties of the giant covalent structures, diamond, graphite, graphene and fullerenes</p> <p>Explain why alloys are harder than pure metals,</p> <p>Explain why metals are good electrical conductors.</p> <p>Explain why metals are good thermal conductors.</p> <p>TRIPLE – Define nanoparticle</p> <p>TRIPLE -Identify the size of fine particles, coarse particles and nanoparticles.</p> <p>TRIPLE – Describe how the properties of nanoparticles aid use of them.</p>		<p>Skim and Scan of source information</p> <p>Decoding terms</p> <p>Etymology of key terms</p>
		<p>Ionic, covalent, metallic, layers, distorted, delocalised electron, ion, melting point, boiling point, alloy, polymer, shell, physical property</p> <p>TRIPLE - nanoparticle</p>
		<p>Baseline</p> <p>Recall questions to start every lesson</p> <p>End of unit assessment</p>
<p><b>Disciplinary Knowledge:</b></p> <p>Identify 2D and 3D models.</p> <p>TRIPLE - Calculate surface area of a nanoparticle.</p> <p>TRIPLE - Recognise and use expressions in standard form.</p> <p>TRIPLE- Evaluate the use of nanoparticles.</p>		<p>Revision Card preparation for every lesson</p> <p>Repetition of use of revision cards for end of unit assessment</p> <p>Exam questions - application</p>
<p><b>Half Term 6: Electrolysis</b></p> <p><b>Substantive Knowledge:</b></p> <p>HIGHER – link oxidation and reduction in terms of electrons to electrolysis</p> <p>Link ion formed to group element is in.</p> <p>Identify the reaction which causes water to be made in a neutralisation reaction.</p> <p>Predict the products of molten binary ionic substances.</p> <p>Explain why a mixture is used as an electrolyte.</p> <p>Explain why the positive electrode must be replaced.</p> <p>Explain how ions become atoms at electrodes.</p> <p>Predict products of electrolysis of a molten compound.</p> <p>Predict products of electrolysis of an aqueous compound.</p> <p>Explain electrolysis of aluminium oxide , including the use of cryolite.</p>		<p>Skim and Scan of source information</p> <p>Decoding terms</p> <p>Etymology of key terms</p>
		<p>Aqueous solution, Electrolysis, electrolyte, Negative electrode (cathode), , Oxidation, Positive electrode (anode), Redox reaction, Reduction,</p>
<p><b>Disciplinary Knowledge:</b></p> <p>Predict the products of aqueous solutions containing ionic compounds.</p> <p>REQUIRED PRAC – Describe the practical of aqueous ionic solutions.</p> <p>HIGHER - Describe reactions using half equations</p>		<p>Baseline</p> <p>Recall questions to start every lesson</p> <p>End of unit assessment</p>
		<p>Revision Card preparation for every lesson</p> <p>Repetition of use of revision cards for end of unit assessment</p> <p>Exam questions - application</p>