



ASPIRE • BELIEVE • ACHIEVE



**Curriculum Overview: \*A2 Chemistry\***

Year 13 Spring Term 1			
What are we learning?	What knowledge, understanding and skills will we gain?	What does excellence look like?	What additional resources are available?

<p><b>3.2.5 Transition metals</b></p> <p><b>3.3.9.2 Acylation</b></p>	<ul style="list-style-type: none"> <li>• Draw the structure of and name acid anhydrides, acyl chlorides and amides</li> <li>• identify the products of and write equations for acylation reactions of water, alcohols, ammonia and amines with acyl chlorides and acid anhydrides</li> <li>• outline the mechanism for the acylation reactions of acyl chlorides</li> <li>• state advantages of using ethanoic anhydride rather than ethanoyl chloride in the production of aspirin</li> <li>• prepare and purify an organic solid and test its purity.</li> </ul>	<ul style="list-style-type: none"> <li>• Students draw and name acid anhydrides, acyl chlorides and amides</li> <li>• Students write equations and outline mechanisms for acylation reactions of water, alcohols, ammonia and amines with acyl chlorides and acid anhydrides; some of these reactions could be demonstrated.</li> <li>• Students prepare, purify and test the purity of aspirin by melting point determination</li> <li>• Use laboratory apparatus for a variety of experimental techniques including distillation and heating under reflux, including setting up glassware using retort stand and clamps;</li> <li>• Use laboratory apparatus for a variety of experimental techniques including filtration, including use of fluted filter paper, or filtration under reduced pressure;</li> </ul>	<p><a href="https://www.aqa.org.uk/subjects/science/as-and-a-level">https://www.aqa.org.uk/subjects/science/as-and-a-level</a></p> <p><a href="https://www.physicsandmathstutor.com">https://www.physicsandmathstutor.com</a></p> <p><a href="http://www.senecalearning.com">http://www.senecalearning.com</a> login</p> <p><a href="http://www.docbrown.info">http://www.docbrown.info</a></p> <p><a href="http://www.chemsheets.co.uk/">http://www.chemsheets.co.uk/</a></p>
<p>Year 13 Spring Term 2</p>			
<p>What are we learning?</p>	<p>What knowledge, understanding and skills will we gain?</p>	<p>What does excellence look like?</p>	<p>What additional resources are available?</p>

<p><b>3.3.10 Aromatic Chemistry</b></p> <p><b>3.3.13 Amino acids, proteins and DNA</b></p>	<ul style="list-style-type: none"> <li>• draw the structure of given amino acids in acidic solution, alkaline solution and as zwitterions.</li> <li>• describe the primary, secondary and tertiary structure of proteins, including the importance of hydrogen bonds and S-S bonds</li> <li>• draw the structure of peptides formed from amino acids</li> <li>• know that peptide link can be hydrolysed producing amino acids</li> <li>• identify the amino acids given when a peptide is hydrolysed</li> <li>• know that amino acids can be separated and identified by thin-layer chromatography, including the use of <math>R_f</math> values.</li> </ul>	<ul style="list-style-type: none"> <li>• Draw the structure of peptides formed from joining amino acids together</li> <li>• Identify amino acids formed when peptides are hydrolysed</li> <li>• Identify the primary, secondary and tertiary parts of the structure of some proteins</li> <li>• Students can carry out some thin-layer chromatography of some amino acids to identify an unknown amino acid</li> </ul>	<p><a href="https://www.aqa.org.uk/subjects/science/as-and-a-level">https://www.aqa.org.uk/subjects/science/as-and-a-level</a></p> <p><a href="https://www.physicsandmathstutor.com">https://www.physicsandmathstutor.com</a></p> <p><a href="http://www.senecalarning.com">http://www.senecalarning.com</a> login</p> <p><a href="http://www.docbrown.info">http://www.docbrown.info</a></p> <p><a href="http://www.chemsheets.co.uk/">http://www.chemsheets.co.uk/</a></p>
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