



Curriculum Plan  
2016

Autumn Term	Spring Term	Summer Term
<p><b>Amount of substance</b></p> <ul style="list-style-type: none"> <li>• Y11 Refresher</li> <li>• Avogadro and Moles</li> <li>• RFM and Percentage Elements</li> <li>• Empirical Formula (x2)</li> <li>• Ideal Gas Equation ( x2)</li> <li>• Making Standard Solutions</li> <li>• Standard Solutions</li> <li>• Standard Solutions and Molarity</li> <li>• Explaining Molarity</li> <li>• Carrying out a Titration</li> <li>• Titration Calculations (x4)</li> <li>• Titration Errors</li> <li>• Predicting Masses (x4)</li> <li>• Atom Economy</li> <li>• Predicting Ionic Formula</li> <li>• Writing Ionic Equations</li> <li>• Reviewing Calculations</li> </ul> <p><b>Atomic structure</b></p> <ul style="list-style-type: none"> <li>• Atomic Structure</li> <li>• The Mass Spectrometer</li> <li>• Electron Configuration</li> <li>• Ionization Energies</li> <li>• Trends in First Ionization Energy</li> <li>• Intermolecular forces</li> <li>• Periodicity</li> </ul>	<p><b>Organic Chemistry</b></p> <ul style="list-style-type: none"> <li>• Haloalkanes</li> <li>• Alkenes</li> <li>• Alcohols</li> <li>• Organic analysis</li> <li>• Analytical Techniques</li> </ul> <p><b>Energetics</b></p> <ul style="list-style-type: none"> <li>• Energetics</li> <li>• Kinetics</li> <li>• Chemical equilibria, Le Chatelier's principle</li> <li>• Oxidation, reduction and redox equations</li> </ul> <p><b>Periodic Table Trends</b></p> <ul style="list-style-type: none"> <li>• Periodicity</li> <li>• Group 2, The Alkali Earth Metals</li> <li>• The Halogens</li> </ul>	<p><b>Organic Chemistry</b></p> <ul style="list-style-type: none"> <li>• Organic Compounds</li> <li>• Isomerism</li> <li>• Optical isomerism</li> <li>• Aldehydes and Ketones</li> <li>• Carboxylic Acids</li> <li>• Esters</li> <li>• Hydrolysis of Esters</li> <li>• Biodiesel</li> <li>• Chromatography</li> </ul> <p><b>Structural Determination</b></p> <ul style="list-style-type: none"> <li>• Mass Spectroscopy</li> <li>• IR Spectroscopy</li> <li>• NMR Spectroscopy</li> </ul>
<p>HALF TERM</p>		



<p><b>Bonding</b></p> <ul style="list-style-type: none"><li>• Ionic bonding</li><li>• Covalent bonding</li><li>• Metallic bonding</li><li>• Electronegativity and Bond polarization</li><li>• Shapes of molecules</li><li>• Intermolecular forces</li><li>• Periodicity</li></ul> <p><b>Organic Chemistry</b></p> <ul style="list-style-type: none"><li>• Introduction to Organic Chemistry</li><li>• Naming Organic Compounds</li><li>• Isomers</li><li>• Alkanes</li><li>• Combustion</li><li>• Cracking Review</li></ul> <p><i>Recommended Practical Activities:</i></p> <ul style="list-style-type: none"><li>• <i>RPA 1 - Make up a volumetric solution and carry out a simple acid-base titration</i></li><li>• <i>RPA 6 - Distillation of a product from a reaction</i></li><li>• <i>RPA 12 - Separation of species by thin- layer chromatography</i></li></ul>	<p><i>Recommended Practical Activities:</i></p> <p><i>RPA 2 - Measurement of an enthalpy change</i></p> <p><i>RPA 3 - Investigation of how rate of reaction changes with temperature</i></p> <p><i>RPA 4 - Carry out simple test-tube reactions to identify cations and anions in aqueous solution</i></p> <p><i>RPA 6 - Tests for alcohol, aldehyde and carboxylic acids</i></p> <p><i>RPA 10 - Preparation of (i) pure organic solid and test its purity (ii) pure organic liquid</i></p>	<p>CONTINUED</p>
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