

## KS4 Science – Year 10

	Topics Covered	Assessment
<p><b>YEAR 10 AUTUMN TERM</b></p> <p>Weeks – 1-15</p> <p>5<sup>th</sup> September – 21<sup>st</sup> December 2016</p>	<p><b>CELL BIOLOGY</b></p> <ul style="list-style-type: none"> <li>- Eukaryotes and prokaryotes</li> <li>- Animal and plant cells</li> <li>- Cell specialisation</li> <li>- Cell differentiation</li> <li>- Microscopy</li> <li>- Chromosomes</li> <li>- Mitosis and cell cycle</li> <li>- Stem cells</li> <li>- Transport in cells</li> <li>- Diffusion</li> <li>- Osmosis</li> <li>- Active transport</li> </ul> <p><b>ORGANISATION</b></p> <ul style="list-style-type: none"> <li>- Animal tissues, organs and organ systems</li> <li>- Heart and blood vessels</li> <li>- Blood</li> <li>- Heart disease and health issues</li> <li>- Plant tissues, organs and systems</li> </ul> <p><b>INFECTION AND RESPONSE</b></p> <ul style="list-style-type: none"> <li>- Communicable diseases</li> <li>- Human defence systems</li> <li>- Vaccination</li> <li>- Antibiotics</li> <li>- Drug development</li> </ul> <p><b>BIOENERGETICS</b></p> <ul style="list-style-type: none"> <li>- Photosynthesis</li> <li>- Respiration</li> <li>- Exercise and metabolism</li> </ul>	<ul style="list-style-type: none"> <li>• Graded homework</li> <li>• In-class assessments</li> <li>• Formal PT1 examination (B1)</li> <li>• Required practical activities</li> </ul>
<p><b>Year 10 Spring Term</b></p> <p>Weeks – 16-26</p> <p>9<sup>th</sup> January – 31<sup>st</sup> March 2017</p>	<p><b>ATOMIC STRUCTURE AND THE PERIODIC TABLE</b></p> <ul style="list-style-type: none"> <li>- Simple models of the atom</li> <li>- Symbols</li> <li>- Relative atomic mass</li> <li>- Electronic charge</li> <li>- Isotopes</li> <li>- The periodic table</li> </ul> <p><b>BONDING AND STRUCTURE</b></p> <ul style="list-style-type: none"> <li>- Chemical bonds, ionic, covalent and metallic</li> <li>- Bonding and the properties of substances</li> </ul> <p><b>QUANTITATIVE CHEMISTRY</b></p> <ul style="list-style-type: none"> <li>- Chemical measurements</li> <li>- Conservation of mass</li> <li>- Quantitative interpretation of chemical equations</li> <li>- Chemical changes</li> <li>- Electrolysis</li> </ul>	<ul style="list-style-type: none"> <li>• Graded homework</li> <li>• In-class assessments</li> <li>• Formal PT2 examination (C1)</li> <li>• Required practical activities</li> </ul>

	<b>ENERGY CHANGES</b> - Endothermic and exothermic reactions	
<b>Year 10 SUMMER TERM</b> Weeks – 27-39 17 <sup>th</sup> April – 21 <sup>st</sup> July 2017	<b>ENERGY</b> - Energy stores and systems - Changes in energy - Energy changes in systems - Power - Conservation and dissipation of energy - Efficiency - National and global energy resources  <b>ELECTRICITY</b> - Standard circuit symbols - Electrical charge and current - Current, resistance and potential difference - Resistors - Series and parallel circuits - Domestic uses and safety  <b>PARTICLE MODEL OF MATTER</b> - Changes of state and the particle model - Internal energy and energy transfers - Particle model and pressure  <b>ATOMIC STRUCTURE</b> - Atoms and isotopes - Atoms and nuclear radiation	<ul style="list-style-type: none"> <li>• Graded homework</li> <li>• In-class assessments</li> <li>• Formal PT3 examination (P1)</li> <li>• Required practical activities</li> </ul>

## Progress Tracking Assessment dates

**PT1: 14<sup>th</sup>- 18<sup>th</sup> November 2016**

**PT2: 23<sup>rd</sup> January to 3<sup>rd</sup> February 2017**

**PT3: 19<sup>th</sup> to 30<sup>th</sup> June 2017**