

## Curriculum area BTEC Level 3 National Extended Certificate in Applied Science (601/7436/5)

Topics	Assessment	How you can support your child's learning at home E.g. Books, Websites, Family learning through visits
<p><u>Unit 1</u> – Principles and applications of science I (Mandatory)</p> <p>The unit is split into three sections:</p> <ul style="list-style-type: none"> <li>• Section A – Chemistry</li> <li>A1 - Structure and bonding in applications in science</li> <li>A2 - Production and uses of substances in relation to properties</li> <li>• Section B – Biology</li> <li>B1 - Cell structure and function</li> <li>B2 - Cell specialisation</li> <li>B3 - Tissue structure and function</li> <li>• Section C – Physics.</li> <li>C1 - Working with waves</li> <li>C2 - Waves in communication</li> </ul>	<p>This unit will be assessed through 3 written exams worth 30 marks each, which are set and marked by Pearson. The exams will last 40 minutes each.</p> <p>Each paper will include a range of question types, including multiple choice, calculations, short answer and open response. These question types will assess discrete knowledge and understanding of the content in this unit.</p> <p>The assessment availability is January and May/June each year.</p>	<p>Pupils will need to purchase the course text book, we are able to offer this for sale in school at a discounted price compared to online or high street retailers.</p> <p>Purchase the revision guides.</p> <p>Monitor and support.</p> <p>Guidance with organisation of school work, meeting deadlines for homework, preparing for assessments.</p> <p>File dividers will be provided with specification points to aid organisation.</p> <p>Online material available:            Pearson website: <a href="https://qualifications.pearson.com/en/home.html">https://qualifications.pearson.com/en/home.html</a>            Royal society of Biology: <a href="https://www.rsb.org.uk">https://www.rsb.org.uk</a>            Royal Society of Chemistry: <a href="https://www.rsc.org">https://www.rsc.org</a>            Institute of Physics: <a href="http://www.iop.org">http://www.iop.org</a>            Physics and Maths Tutor: <a href="https://www.physicsandmathstutor.com">https://www.physicsandmathstutor.com</a>            Revisely: <a href="https://www.revisely.co.uk">https://www.revisely.co.uk</a>            Chemguide: <a href="https://www.chemguide.co.uk">https://www.chemguide.co.uk</a>            Chemrevise: <a href="https://chemrevise.org">https://chemrevise.org</a>            S-cool revision: <a href="https://www.s-cool.co.uk">https://www.s-cool.co.uk</a>            Seneca Learning: <a href="https://www.senecalearning.com">https://www.senecalearning.com</a></p>
<p><u>Unit 2</u> – Practical Scientific Procedures and Techniques (Mandatory)</p> <p>In this unit you will cover 4 learning aims:</p> <p><b>A</b> Undertake titration and colorimetry to determine the concentration of solutions</p> <p><b>B</b> Undertake calorimetry to study cooling curves</p> <p><b>C</b> Undertake chromatographic techniques to identify components in mixtures</p> <p><b>D</b> Review personal development of scientific skills for laboratory work.</p>	<p>This unit will be assessed via 4 assignments, these are set by Pearson and marked internally by teaching staff.</p> <p>Strict deadlines are to be adhered to as part of the assessment process.</p>	<p>Encourage students to attend help sessions offered at school by staff at lunchtimes, after school and during curriculum enhancement sessions.</p> <p>Following each lesson students are required to spend an equivalent proportion of time consolidating work by reading textbook topics and completing pause point tasks.</p>

<p><u>Unit 3 – Science Investigation Skills (Mandatory)</u>  The essential content is set out under content areas.  A Planning a scientific investigation.  B Data collection, processing and analysis/interpretation  C Drawing conclusions and evaluation  D Enzymes in action  E Diffusion of molecules  F Plants and their environment  G Energy content of fuels  H Electrical circuits</p>	<p>This unit will be assessed through a practical task (Part A) and written task (Part B) worth 60 marks. The task is set and marked by Pearson and will be completed in one sitting, within a supervised assessment session timetabled by Pearson.</p> <p>The assessment availability is in January and May/June.</p>	<p>At the end of each topic an end of topic assessment will be conducted, students are expected to complete the assessment practice questions in the text book in preparation for the assessment.</p> <p>Completion of past examination papers, available in school and online.</p>
<p><u>Optional unit – A choice of 1 unit from the following:</u></p> <ul style="list-style-type: none"> <li>• Physiology of human body systems</li> <li>• Human regulation and reproduction</li> <li>• Biological molecules and metabolic pathways</li> <li>• Genetics and genetic engineering</li> <li>• Diseases and infections</li> <li>• Applications of inorganic chemistry</li> <li>• Applications of organic chemistry</li> <li>• Electrical circuits and their application</li> <li>• Astronomy and space science</li> </ul>	<p>Each of the optional units is assessed internally via a range of assignments set by Pearson.</p>	