

**Science Department**

**Curriculum Overview - Year 11 - Triple Science - Physics**

**The Big Picture:**

Year 11 will study: Forces and their uses, Electromagnetic waves & their applications, Nuclear Physics and its current and potential uses, along with the pros-&-cons raging around this contentious topic. They will also study the physics of space – which applies the concepts previously learned in both circular motion and the evidence underpinning the Big Theories. There will be a focus on calculation skills development along with the development and refinement of extended writing skills.

AO1: Demonstrate knowledge and understanding of the topic.

AO2: Apply your knowledge and understanding of the topic and use your scientific ideas.

AO3: Analyse information in a scientific context and use your understanding to make predictions and evaluations.

<https://www.aqa.org.uk/subjects/science/gcse/physics-8463>

<p>Term 1: <b>Forces in Action</b></p> <ul style="list-style-type: none"> <li>• <b>Forces in Balance</b> (<i>pages 112-133</i>)</li> <li>• <b>Force and Motion</b> (<i>pages 144-161</i>)</li> <li>• <b>Gas Pressure &amp; Volume</b> (<i>88-90</i>)</li> <li>• <b>Force &amp; Pressure</b> (<i>162-171</i>)</li> </ul> <p>Green Task:</p> <ul style="list-style-type: none"> <li>• Assessment: Forces</li> <li>• Extended Response Skills: Vehicle Design</li> </ul> <p>Assessment Objectives covered - AO1, AO2, AO3</p>	<p>Term 4: <b>Sound Waves</b> (<i>182-189</i>)</p> <ul style="list-style-type: none"> <li>• <b>Use of Ultrasound</b></li> <li>• <b>Seismic Waves</b></li> </ul> <p><b>Light</b> (<i>202-213</i>)</p> <p><b>Space, including Circular Motion</b> (<i>232-243</i>)</p> <p>Green Task:</p> <ul style="list-style-type: none"> <li>• Assessment: Forces, Sound, &amp; Light</li> <li>• Extended Response Skills: <ul style="list-style-type: none"> <li>○ Orbiting the Earth</li> <li>○ Evidence for the Big Bang Theory (thinking backwards!)</li> <li>○ Glasses for the third-world</li> </ul> </li> <li>• March PPE (2<sup>nd</sup> of 2)</li> </ul> <p>Assessment Objectives covered - AO1, AO2, AO3</p>
<p>Term 2: <b>Electromagnetism</b> (<i>pages 214-231</i>) <b>Infrared Radiation</b> (<i>pages 26-28</i>)</p> <p>Green Task:</p> <ul style="list-style-type: none"> <li>• Assessment: Magnetism &amp; Electromagnetism</li> <li>• Extended Response Skills: <ul style="list-style-type: none"> <li>○ Future Energy</li> <li>○ Generating Electricity</li> </ul> </li> <li>• November PPE (1<sup>st</sup> of two)</li> </ul> <p>Assessment Objectives covered - AO1, AO2, AO3</p>	<p>Term 5: <b>Examination Preparation &amp; Practice</b></p> <p>Assessment Objectives covered - AO1, AO2, AO3</p>
<p>Term 3: <b>Electrical charges &amp; fields</b> (<i>50-52</i>) <b>Nuclear Radiation in medicine, fission, fusion, &amp; issues</b> (<i>102-111</i>) <b>Moments at work, levers &amp; gears, moments &amp; equilibrium</b> (<i>120-127</i>)</p> <p>Green Task:</p> <p>Extended Response Skills:</p> <ul style="list-style-type: none"> <li>• Nuclear Power</li> </ul>	

- Using Radiation
- Double-Decker Bus Design

Assessment Objectives covered - AO1, AO2, AO3