

Progression Model: GCSE Physics Year 11

Module Title: Forces and static electricity	Module Title: Electricity and electromagnetism	Module Title: Consolidation
<p><b>Learning Intent for this module:</b> Students will learn about how to describe motion of a body and how to use Newton's laws of motion to explain how objects move. They investigate how force interactions can cause certain motions and, in turn, cause other reaction forces or produce a turning effect. The lessons build on the knowledge forces to explain elasticity, pressure in fluids and momentum. Finally in this module using the force of friction to discover the world of static electricity</p> <ul style="list-style-type: none"> <li>• Forces</li> <li>• Pressure</li> <li>• Static electricity</li> </ul>	<p><b>Learning Intent for this module:</b> Students will learn how electric charge is a fundamental property of matter everywhere. Understanding the role of conductors and insulators and how to design and construct circuits to see the relationships between current and potential difference in a variety of components. Many of these circuits are powered by mains electricity so understanding how electromagnetism allows power station to produce the electricity and its many applications.</p> <ul style="list-style-type: none"> <li>• Current electricity</li> <li>• Mains electricity</li> <li>• Magnets and electromagnetism</li> </ul>	<p><b>Learning Intent for this Module:</b> Students are provided the opportunity to revisit and review key ideas and provide revision, consolidation and examination practise prior to examination.</p> <ul style="list-style-type: none"> <li>• Energy</li> <li>• Waves</li> <li>• Atomic structure</li> <li>• Electromagnetic spectrum</li> <li>• Electricity</li> <li>• Particles of matter</li> <li>• Electromagnetism</li> <li>• Space</li> </ul>
<p><b>Key Content to be learned:</b> Students will learn about Newton's laws of motion, they will be able to investigate these in a required practical lesson. They will learn about the work that has to be done in stretching a spring or an elastic object by Hooke's law practical. Turning effects of forces, pressure in fluids and momentum builds on their year 10 knowledge of forces and motion. Students will expand their knowledge about friction by using it to explain how objects become charged. Electric fields is the final part of this module.</p>	<p><b>Key content to be learned:</b> Students will learn about how the properties of electrical circuits including current, potential difference and resistance. They will also learn the difference between series and parallel circuits. They will expand their knowledge of the magnets and electromagnetism to explain how many things that include loudspeaker, transformers and generators. Applying their knowledge of Flemings left hand law students will be able to explain how a motor works.</p>	<p><b>Key content to be learned:</b> Students will retrieve and practice application of their Physics knowledge by completing exam preparation and revision.</p>

<b>Prior Knowledge</b> Students should know the effects of forces (y10), kinetic theory of gases (y9) and the atomic structure of an atom (y10).	<b>Prior Knowledge</b> Students should be able to (from y7) identify different components, recall the definitions of current and potential difference and know the about magnets and their poles. Be able to draw how to set up series and parallel circuits.	<b>Prior Knowledge</b> Students will have prior knowledge of all topics revised this module.
<b>Key tasks for this module:</b> Mock 1 Forces	<b>Key tasks for this module:</b> Mock 2 Space	<b>Key tasks for this module:</b> Past Papers GCSE Exams