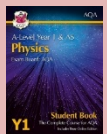


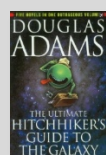



The English Martyrs Catholic School and Sixth Form College



<u>Physics Year 12 - B</u>	<u>Module 1</u>	<u>Module 2</u>	<u>Module 3</u>
<u>Topic Theme and Intent</u>	The students will learn about electricity . This topic builds upon GCSE content, introducing more components and new ideas, such as e.m.f, internal resistance and resistivity . This module will allow students to have a greater understanding of electrical phenomena.	The students will learn about waves . The students will study behaviour of waves, speed of waves and what can happen to a wave a boundary . This will enable the students to understand how waves interact with the world around them.	The students will find out about some bulk properties of materials . The students will find out about density, Hooke's law, Stress and Strain and the The Young's modulus of a material. This will help students to understand the limitations of materials used in engineering.
<u>Knowledge</u>	<ul style="list-style-type: none"> Basics of electricity Current–voltage characteristics Resistivity Circuits Potential divider Electromotive force and internal resistance 	<ul style="list-style-type: none"> Progressive waves Longitudinal and transverse waves Principle of superposition of waves and formation of stationary waves Interference Diffraction Refraction at a plane surface 	<ul style="list-style-type: none"> Density Hooke's law Stress and strain The Young's Modulus Brittle materials
<u>Skills</u>	Students will conduct practical work to investigate the resistivity, EMF and internal resistance.	Students will make optical observations to investigate optical phenomena such as stationary waves and diffraction.	Students will measure the Young's modulus of materials by experiment.
<u>Literacy Links</u>	<p>Reading – Students will read about the application of electrical laws to common uses.</p> <p>Writing – Students start to communicate scientific ideas and concepts through writing.</p> <p>Oracy – Students start to use scientific vocabulary in discussion and question and answering.</p>	<p>Reading – Students will read about the use and dangers of waves in the world around them.</p> <p>Writing – Students practise communicating scientific ideas and concepts through writing.</p> <p>Oracy – Students practise the use scientific vocabulary in discussion and question and answering.</p>	<p>Reading – Students will read about the limitations of materials and how they can be used safely.</p> <p>Writing – Students will communicate scientific ideas and concepts through writing.</p> <p>Oracy – Students use scientific vocabulary in discussion and question and answering.</p>
<u>Essential Vocabulary</u>	Potential difference, current, resistance, ohmic, superconductor, thermistor, potential divider, e.m.f., internal resistance, power, charge	Progressive, radians, stationary, interference, polarisation, superposition, node, anti-node, harmonic, coherence, Snell's Law, slit, total internal reflection.	Mass, volume, extension, force, area, Young's modulus, breaking strain.

Disciplinary Reading	Reading for Pleasure
<p>CGP Books – A level Physics, & Oxford Revise A level Physics.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>T. Pratchett and N. Gaiman - Good Omens</p>  </div> <div style="width: 45%;"> <p>D. Adams - The Hitchhiker's Guide to the Galaxy</p>  </div> </div>
	<div style="width: 100%;"> <p>S. Clarke - Piranesi</p>  </div>