

## Year 10

Timing	Unit Title	Key Question	Knowledge	Assessing understanding
Autumn	Waves	<p><b>What are waves and how do we measure them?</b></p> <p><b>What is the Electromagnetic Spectrum and How do we use it?</b></p>	<ul style="list-style-type: none"> <li>Waves Basics, features of transverse and longitudinal waves including the basics of reflection and refraction.</li> <li>Wave Equation.</li> <li>Required Practical 8 - speed of wave in ripple tank and Speed of waves in solids.</li> <li>How we hear sound.</li> <li>Uses of waves in imaging, sonar and developing theories on the structure of the Earth 1.</li> <li>More about Earth quake waves.</li> <li>The Electromagnetic Spectrum.</li> <li>Infra-red and Black body radiation.</li> <li>Required practical 10 silver and black cans.</li> <li>X-rays.</li> <li>Light.</li> <li>Reflection.</li> <li>Refraction.</li> <li>Required practical 9 reflection and refraction from different substances.</li> <li>Diffraction.</li> <li>Colour and how we see it.</li> <li>Convex and concave lenses.</li> <li>Ray diagrams.</li> </ul>	<p><b>How understanding is assessed</b></p> <p>Students will be assessed on their ability to:</p> <ul style="list-style-type: none"> <li>recall the knowledge covered</li> <li>explain the Physical processes covered.</li> <li>interpret graphical and experimental data</li> <li>plan and describe valid experiments</li> <li>evaluate experimental procedures and results</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>Description.</li> <li>Explanation.</li> <li>Evaluation.</li> <li>Comparison.</li> <li>Planning and carrying out investigations.</li> <li>Manipulating Mathematical Formulae.</li> </ul> <p><b>Assessment point information</b></p> <p>Based on:</p> <ul style="list-style-type: none"> <li>home works during the term</li> <li>test on Energy from Year 9</li> <li>test on Waves.</li> </ul>



Summer	<p><b>Electricity</b></p> <p><b>Electricity</b></p> <p><b>Electricity</b></p>	<p><b>What can we measure in electric circuits and how are these things related?</b></p> <p><b>What can we measure in electric circuits and how are these things related?</b></p> <p><b>How do we access electricity at home?</b></p>	<ul style="list-style-type: none"> <li>● Electrostatics</li> <li>● Electricity introduction</li> <li>● Current</li> <li>● Potential Difference and Resistance and Ohms Law</li>   <li>● Test Circuits (Electrical Component properties)</li> <li>● I-V Graphs (Electrical Component Graphs)</li> <li>● Circuit Rules (Theory: Series vs Parallel circuits)</li> <li>● Circuit Rules: (Required Practical 4: Series vs Parallel circuits)</li> <li>● Required Practical 3 Use circuit diagrams to set up and check appropriate circuits to investigate the factors affecting the resistance of electrical circuits.</li>   <li>● Electrical Power</li> <li>● Energy Transfers in circuits</li> <li>● National Grid</li> <li>● Plugs and Wiring</li> <li>● Fuses and Circuit Breakers</li> <li>● AC vs DC and measuring</li> </ul>	<p><b>How understanding is assessed</b></p> <p>Students will be assessed on their ability to:</p> <ul style="list-style-type: none"> <li>● recall the knowledge covered</li> <li>● explain the Physical processes covered</li> <li>● interpret graphical and experimental data</li> <li>● plan and describe valid experiments</li> <li>● evaluate experimental procedures and results.</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● Description.</li> <li>● Explanation.</li> <li>● Evaluation.</li> <li>● Comparison.</li> <li>● Planning and carrying out investigations.</li> <li>● Manipulating mathematical formulae.</li> </ul> <p><b>Assessment point information</b></p> <p>Based on:</p> <ul style="list-style-type: none"> <li>● home works during the term</li> <li>● end of year exam.</li> </ul>
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