



<p><b>This half term: Skills, Knowledge and Understanding to be developed:</b></p> <ul style="list-style-type: none"> <li><b>Skills</b> (students <b>WILL BE ABLE</b> to by the end of the Learning Programme): list the waves of the electromagnetic spectrum in the correct order, compare waves in terms of frequency and wavelength, compare methods of communication in terms of cost, speed and security, define key terms, calculate time delays.</li> <li><b>Knowledge</b> (students <b>WILL KNOW</b> by the end of the Learning Programme): the features of regions of the electromagnetic spectrum; which can be used for communication and which are ionising. They will know why ionising radiation can be harmful and how people can protect themselves against harm.</li> <li><b>Understanding</b> (students <b>WILL DEMONSTRATE</b> their understanding): by answering a range of questions that focus around 'describe', 'explain', 'compare', 'analyse' and 'plan'.</li> <li><b>Pupils will also utilise the Skills, Knowledge and Understanding developed in the topic areas covered during LP4 in completing past GCSE Physics exam papers as part of their revision.</b></li> </ul>		<p><b>Key Terms / Words:</b>          WAVELENGTH, FREQUENCY, WAVESPEED, TRANSVERSE, LONGITUDINAL, ELECTROMAGNETIC WAVES, RADIATION, IONISING, GEOSYNCHRONOUS</p>	
<p><b>LP 4 – Week 1 &amp; 2 Learning Outcomes:</b></p> <p><b>Unit 3.5: Features of Waves</b></p> <ol style="list-style-type: none"> <li>Students will be able to describe the differences and similarities between the regions of the electromagnetic spectrum. Students will be able to identify which regions of the electromagnetic spectrum can be used for communication.</li> <li>Students will be able to explain how geosynchronous and geostationary orbit applies to satellite communication.</li> <li><b>APP1 – Students will be able to apply and demonstrate new knowledge and skills by completing APP1 based on work covered in lesson 1-3.</b></li> <li>Students will be able to explain what is meant by the terms "radiation" and "ionising radiation", and identify which types of radiation are ionising.</li> <li>Students will be able to explain why ionising radiation can be harmful and know some of the precautions that can be taken to protect against the ionising effects.</li> </ol>	<p style="text-align: center;"></p> <p style="text-align: center;"><b>APP 1</b></p> <p style="text-align: center;"><b>Mark</b></p>	<p><b>Success criteria:</b></p> <p>Complete table with information about the e-m spectrum.</p> <p>List methods of communication using e-m waves.</p> <p>Define key terms</p> <p>Draw/label diagrams showing satellite arrays.</p> <p>Carry out calculations of time delays.</p> <p>Define radiation and ionisation.</p> <p>List examples of ionising radiation.</p> <p>Explain how ionisation can lead to cell damage.</p>	<p><b>Homework LP 4</b></p> <p>Questions on the Electromagnetic Spectrum.</p> <p style="border: 2px solid red; padding: 5px;"><b>Mark:</b></p>
<p><b>LP 4 – Week 3 &amp; 4 Learning Outcomes:</b></p> <p><b>Unit 3.4: Domestic Electricity</b></p> <ol style="list-style-type: none"> <li>Students will be able to define kW and kWh. Students will be able to calculate the cost of electricity.</li> <li>Students will be able to use data to compare the cost of different electrical components.</li> <li>Students will be able to describe the difference between alternating current (a.c) and direct current (d.c)</li> <li>Students will be able to explain the functions of fuses, miniature circuit breakers (mcb) and residual current circuit breakers (rccb)</li> <li>Students will be able to use the correct equation to calculate appropriate fuse ratings.</li> </ol>		<p><b>Success criteria:</b></p> <p>Use an oscilloscope to identify the difference in a.c and d.c properties</p> <p>Compare the pros and cons of using fuses, mcbs and rccbs.</p> <p>Calculate the correct value for fuses in different electrical appliances</p> <p>Label the three main wires in a plug and describe their functions</p>	<p><b>Homework LP 4</b></p>
<p><b>LP 4 – Week 5 &amp; 6 Learning Outcomes:</b></p> <ol style="list-style-type: none"> <li>Students will be able to describe the ring main, explain the functions of the live, neutral and earth wires and list the benefits of this system.</li> </ol>	<p style="text-align: center;"></p> <p style="text-align: center;"><b>SA</b></p>	<p><b>Success criteria:</b></p> <p>1. Students will be able to correct their work and re-visit any mis conceptions</p>	<p><b>Homework LP 4</b></p>



<p>12. Students will be able to apply and demonstrate new knowledge and skills in an end of unit exam.</p> <p>13. Students will be able to answer the feedback given on the Summative Assessments and have a chance to re-visit the work that they didn't understand so well.</p>	<p><b>Mark</b></p>	<p>made when completing the past paper questions.</p>	
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