

Year 11 Physics Combined Learning Programme 3

<p>The LORIC skill focus for his LP is: RESILIENCE Respect - treat others how you would wish to be treated yourself.</p> <p>Compassion - the quality of feeling pity and concern for the sufferings or misfortunes of others. Honesty - the quality of being truthful.</p> <p>What will I be learning about in this Learning Programme? We start with waves and their behaviour before we link this to the electromagnetic spectrum. We then move onto magnetic fields and how motors work.</p> <p>Where have I seen this learning before? Sound and light (both waves) were part of both KS2 and KS3. Electromagnetism builds on what you learnt about electricity in Y10.</p> <p>What could I use it for? We will build on waves at A-level, where we look at how different sounds are formed, and how they link with quantum mechanics (wave-particle duality). Wave behaviour is important in careers in astronomy, engineering, radiography and music technology.</p>		<p>Literacy:</p> <ul style="list-style-type: none"> Capital letters must be used at the start of sentences and for the first letter of proper nouns Full stops must be used at the end of a sentence Question marks must be used at the end of a question Apostrophes should only be used for possession or omission Days of the week and months must be spelled correctly Key words must be spelled correctly
<p>In LP3.1, I will know: 06/01/25 - (WK 2)</p> <p>how to describe the difference between transverse and longitudinal waves and provide examples; how to accurately label the wavelength and amplitude of a wave and apply the equation $T=1/f$ to define amplitude, frequency and wavelength.</p>	<p>Key Vocabulary</p> <p>longitudinal</p>	<p>Homework</p> <p>PPQ on waves</p>
<p>In LP3.2, I will know: 13/01/25 - (WK 1)</p> <p>how to rearrange and apply the equation speed = frequency x wavelength, using standard form where required; how to measure wavelength, frequency and speed of waves in a ripple tank and in a solid. (required practical)</p>	<p>Key Vocabulary</p> <p>frequency</p>	<p>Homework</p> <p>Retrieval questions on refraction/reflection.</p>
<p>In LP3.3, I will know: 20/01/25 - (WK 2)</p> <p>how to construct accurate ray diagrams to illustrate reflection and refraction of waves at a surface; how to construct a wave front diagram for refraction; how to describe the components of the EM spectrum, their wavelengths & frequencies and explain how some EM waves can be harmful to human health.</p>	<p>Key Vocabulary</p> <p>refraction</p>	<p>Homework</p> <p>PPQ on the required practical (waves)</p>
<p>In LP3.4, I will know: 27/01/25 - (WK 1)</p> <p>how to describe the uses of the components of the EM spectrum; how to investigate how surfaces affect the amount of IR radiation absorbed and emitted.</p> <p>Extended Task.</p>	<p>Key Vocabulary</p> <p>electromagnetic</p>	<p>Homework</p> <p>PPQ based on EM spectrum</p>
<p>In LP3.5, I will know: 03/02/25 - (WK 2)</p> <p>how to describe the difference between permanent and induced magnets; how to draw the magnetic field lines for a bar magnet and explain how to find the magnetic field lines around a magnet using the compass method; how to make an electromagnet and explain how the arrangement of a solenoid can increase the magnetic effect.</p>	<p>Key Vocabulary</p> <p>magnetic</p>	<p>Homework</p> <p>Retrieval questions on the EM spectrum.</p>
<p>In LP3.6, I will know: 10/02/25 - (WK 1)</p> <p>how to use Fleming's Left Hand Rule to deduce the direction of force/current/magnetic field; how to apply and rearrange the equation $F=Bil$; how to explain how a motor works, using Fleming's Left Hand Rule to predict it's direction of motion.</p>	<p>Key Vocabulary</p> <p>alternating</p>	<p>Homework</p> <p>PPQ based on magnetic fields and Fleming's left hand rule.</p>
<p>LP3 RLV, I will: 24/02/25 - (WK 2)</p> <p>review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.</p>		
<p>In LP3.7, I will know: 03/03/25 - (WK 1)</p> <p>how to explain the fractional distillation of crude oil with reference to hydrocarbon chain length; how to describe the key properties of the alkane.</p> <p>Extended Task.</p>	<p>Key Vocabulary</p> <p>hydrocarbon</p>	<p>Homework</p> <p>Retrieval Questions on fractional distillation.</p>
<p>Resources to support learning: knowledge organiser, booklet, COGNITO science, Fuse School.</p>		
<p>FFET Award Challenge for this Learning Programme: Create a Science revision timetable</p>		

