

Year 10 Physics (combined)

Learning Programme 2

<p>The LORIC skill focus for his LP is: ORGANISATION The Moral Virtues focus for this LP are: COMPASSION and HONESTY</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? How current and potential difference behaves in series and parallel circuits; how resistance affects the behaviour of circuits. The National Grid and how electricity is used domestically.</p> <p>Where have I seen this learning before? You have covered electrical circuits at KS3, in particular building circuits and investigating electromagnets</p> <p>What could I use it for? Electricity and circuits is a key idea in physics and electronics. This knowledge is built upon in year 11 when studying electromagnets. It is also built upon in A level physics in the module; electrons, waves and photons.</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 LP2.1, I will know:</p> <p>how to use the equations for efficiency in terms of energy transferred and power; how to describe the advantages and disadvantages of renewable energy sources (wind, water, waves, tides, hydroelectricity, the solar, geothermal and bio-fuel); how to describe the advantages and disadvantages of non-renewable energy resources (fossil fuels and nuclear fuels).</p>	<p>21/10/24 - (WK 2)</p> <p>Key Vocabulary</p> <p>Renewable</p>	<p>Homework</p> <p>Energy resources exam questions</p>
<p>In LP2.2, I will know:</p> <p>how to recall and draw the standard circuit diagram symbols; describe how to build working circuits using standard circuit diagrams; how to describe conventional current and to define current as the rate of flow of charge, applying the equation $Q=It$.</p>	<p>04/11/24 - (WK 1)</p> <p>Key Vocabulary</p> <p>Component</p>	<p>Homework</p> <p>circuit diagrams exam question</p>
<p>LP2 RLW, I will:</p> <p>review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.</p>	<p>11/11/24 - (WK 2)</p>	
<p>In LP2.3, I will know:</p> <p>how to define Potential difference as the energy per unit charge; how to describe and explain the factors that can affect resistance, and apply and rearrange the equation $V=IR$; how to apply the rules for current and potential difference in series and parallel circuits.</p> <p>Extended Task.</p>	<p>18/11/24 - (WK 1)</p> <p>Key Vocabulary</p> <p>Resistance</p>	<p>Homework</p> <p>ohms law calculations</p>
<p>In LP2.4, I will know:</p> <p>how to calculate the total resistance in circuits that contain components connected in series; factors that effect resistance required practical's - Resistors in series and parallel & length of wire; LP2 summative assessment.</p>	<p>25/11/24 - (WK 2)</p> <p>Key Vocabulary</p> <p>Series, parallel</p>	<p>Homework</p> <p>required practical exam question</p>
<p>In LP2.5, I will know:</p> <p>how to draw and explain current/voltage graphs for a resistor (ohmic), diode, and filament lamp (non-ohmic)- required practical how to draw and explain graphs to show how resistance varies with temperature in a thermistor and brightness with an LDR; my strengths and areas for developments following the LP2 summative assessment and PRT.</p>	<p>02/12/24 - (WK 1)</p> <p>Key Vocabulary</p> <p>Ohmic</p>	<p>Homework</p> <p>IV graphs exam question - required practical</p>
<p>In LP2.6, I will know:</p> <p>how to describe the difference between alternating and direct current; how to describe and explain the correct wiring of a 3pin plug and the safety functions associated with it; how Power is transferred in electrical devices and apply the equations $P=IV$ and $P=I^2R$; how Energy is transferred in domestic appliances, and apply the equations $E=QV$ and $E=Pt$; Extended Task.</p>	<p>09/12/24 - (WK 2)</p> <p>Key Vocabulary</p> <p>Alternating current</p>	<p>Homework</p> <p>plugs and electrical safety question</p>
<p>In LP2.7, I will know:</p> <p>how electricity is transferred from power stations to consumers using the National Grid; how to explain why step-up and step-down transformers are used to prevent energy losses; my strengths and areas for developments following the summative assessment and PRT.</p>	<p>16/12/24 - (WK 1)</p> <p>Key Vocabulary</p> <p>Transformer</p>	<p>Homework</p> <p>National Grid and transformers questions</p>
<p>Resources to support learning: Knowledge organisers, BBC Bitesize, Booklet</p>		
<p>FFET Award Challenge for this Learning Programme: LP2 Year 10 Science: Create a revision resource on a topic of your choice</p>		

PRT Task 1

PRT Task 2