

## Year 10 Physics (separate)

### Learning Programme 3

<p>The LORIC skill focus for his LP is: RESILIENCE The Moral Virtues focus for this LP are: RESPECT and JUSTICE</p> <p>Respect - treat others how you would wish to be treated yourself. Justice - our College rules are fair and reasonable.</p> <p><b>What will I be learning about in this Learning Programme?</b> How are electrons transferred in static electricity transferred. How the behaviour of particles affects the behaviour of substances. Density and how you measure it.</p> <p><b>Where have I seen this learning before?</b> From KS3: electrical circuits, properties of materials, the particle model, changes of state, energy changes.</p> <p><b>What could I use it for?</b> This knowledge is further built upon in the two topics: Electricity and Thermodynamics at A-level. Essential knowledge for careers in engineering, catering and food design, insulating buildings.</p>		<p><b>Literacy:</b></p> <ul style="list-style-type: none"> <li>Capital letters must be used at the start of sentences and for the first letter of proper nouns</li> <li>Full stops must be used at the end of a sentence</li> <li>Question marks must be used at the end of a question</li> <li>Apostrophes should only be used for possession or omission</li> <li>Days of the week and months must be spelled correctly</li> <li>Key words must be spelled correctly</li> </ul>
<p><b>In LP3.1, I will know:</b> 06/01/25 - (WK 2)</p> <p>how to explain how the transfer of electrons between objects can explain the phenomena of static electricity; how to explain the concept of an electric field. Draw the electric field pattern for a charged particle. Explain how electric fields help explain the force between charged objects, sparking etc; how to apply the equation density=mass/volume. Know how to find the volume of regular and irregular objects.</p>	<p><b>Key Vocabulary</b></p> <p>electrostatic</p>	<p><b>Homework</b></p> <p>Static electricity questions</p>
<p><b>In LP3.2, I will know:</b> 13/01/25 - (WK 1)</p> <p>how to investigate density (required practical); how to draw and describe particle diagrams for solid, liquid, gas. Describe the properties of solids, liquids and gases.</p>	<p><b>Key Vocabulary</b></p> <p>density</p>	<p><b>Homework</b></p> <p>Density of materials questions</p>
<p><b>In LP3.3, I will know:</b> 20/01/25 - (WK 2)</p> <p>how to describe the differences between heat and temperature in terms of kinetic energy of particles and state changes; how to explain key features of a heating/cooling curve in terms of the potential and kinetic energy of particles and state changes; LP3 Formative assessment.</p>	<p><b>Key Vocabulary</b></p> <p>condensation</p>	<p><b>Homework</b></p> <p>Internal energy and changes of state questions</p>
<p><b>In LP3.4, I will know:</b> 27/01/25 - (WK 1)</p> <p>how to define latent heat of fusion and vapourisation. Rearrange and apply the equation <math>E=ml</math>. how to apply the knowledge of specific and latent heat to describe and calculate the energy changes that occur during heating/cooling and changes of state; My strengths and areas for development from the LP3 formative assessment. Extended Task.</p>	<p><b>Key Vocabulary</b></p> <p>vapourisation</p>	<p><b>Homework</b></p> <p>Specific Latent Heat questions</p>
<p><b>In LP3.5, I will know:</b> 03/02/25 - (WK 2)</p> <p>how to define specific heat capacity. Rearrange and apply the equation <math>E=mc \times \text{temp change}</math>. how to do the specific heat capacity required practical.</p>	<p><b>Key Vocabulary</b></p> <p>capacity</p>	<p><b>Homework</b></p> <p>Pressure in gases questions</p>
<p><b>In LP3.6, I will know:</b> 10/02/25 - (WK 1)</p> <p>how to use kinetic theory to explain how the motion of particles relate to pressure, volume and temperature; how to use kinetic theory to explain how increasing volume (at constant temperature) can lead to a decrease in pressure. how to describe the structure of the atom given its mass number and atomic number. Describe the nature of subatomic particles. Define isotope.</p>	<p><b>Key Vocabulary</b></p> <p>isotope</p>	<p><b>Homework</b></p> <p>Developing the atom questions</p>
<p><b>LP3 RLW, I will:</b> 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>Revision for assessment</p>
<p><b>In LP3.7, I will know:</b> 03/03/25 - (WK 1)</p> <p>how to describe how the model of the atom has developed over time. Describe the difference between the plum pudding model and Extended Task.</p>	<p><b>Key Vocabulary</b></p> <p>radiation</p>	<p><b>Homework</b></p> <p>Isotopes and nuclear radiation</p>
<p><b>Resources to support learning:</b> BBCbitesize, www.physicsandmathstutor.com, booklet, revision guide</p>		
<p><b>FFET Award Challenge for this Learning Programme:</b> Year 10 Science: Create a revision resource on a topic of your choice</p>		

PRT Task 1

PRT Task 2