

Year 12 Modelling Physics Learning Programme 2

<p>The LORIC skill focus for his LP is: ORGANISATION The Moral Virtues focus for this LP are: COMPASSION and HONESTY 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? You will be learning about Newton's Laws of motion, moments and pressure in fluids.</p> <p>Where have I seen this learning before? This unit builds on the mechanics topics from LP1 and KS4</p> <p>What could I use it for? Most aspects of physics require the understanding of Newton's Laws of Motion - used in engineering, architecture, fluid dynamics.</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 apply the SUVAT equations in 2 dimensions (projectile motion); how to calculate the weight of an object using $W = mg$; how to find the centre of mass of regular in irregular shaped objects.</p>	<p>21/10/24 - (WK 2)</p> <p>Key Vocabulary</p> <p>Weight, mass</p>	<p>Homework</p> <p>SUVAT in 2-D exam questions</p>
<p>In LP2.2, I will know:</p> <p>state and explain Newton's laws of motion and how to apply Newton's Second law of motion; how to represent forces on free body diagrams; how to define drag and use it to explain why falling objects reach terminal velocity.</p>	<p>04/11/24 - (WK 1)</p> <p>Key Vocabulary</p> <p>Newton's laws, terminal velocity</p>	<p>Homework</p> <p>Terminal velocity exam questions</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 and calculate moments, torques and couples; how to apply the principle of moments to both balanced and unbalanced systems;</p> <p>Extended Task.</p>	<p>18/11/24 - (WK 1)</p> <p>Key Vocabulary</p> <p>Moments, torque and couples</p>	<p>Homework</p> <p>Moments exam questions</p>
<p>In LP2.4, I will know:</p> <p>how to apply equilibrium of objects under the action of forces and torques; how to solve problems using the rule of triangle of forces.</p>	<p>25/11/24 - (WK 2)</p> <p>Key Vocabulary</p> <p>Equilibrium</p>	<p>Homework</p> <p>Revision</p>
<p>In LP2.5, I will know:</p> <p>how to describe pressure for solids, liquids, and gases; how to apply Archimedes' principle and use the equation $p = h \rho g$ to calculate the upthrust acting on an object in a fluid; 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>Pressure</p>	<p>Homework</p> <p>Pressure exam questions</p>
<p>In LP2.6, I will know:</p> <p>how to define work done by a force and recall that the unit for work done is the joule; how to use $W = F_s \times \cos \theta$ to calculate the work done by a force.</p> <p>Extended Task.</p>	<p>09/12/24 - (WK 2)</p> <p>Key Vocabulary</p> <p>Work done</p>	<p>Homework</p> <p>Work done exam question</p>
<p>In LP2.7, I will know:</p> <p>how to define and apply the principle of conservation of energy; how to describe and carry out calculations for situations involving the transfer of energy between different forms, how to describe the exchange between gravitational potential energy and kinetic energy; my strengths and areas for developments following the LP2 formative assessment and PRT.</p>	<p>16/12/24 - (WK 1)</p> <p>Key Vocabulary</p> <p>Energy</p>	<p>Homework</p> <p>Conservation of energy exam questions</p>
<p>Resources to support learning: Knowledge organiser, Isaac physics, www.physicsandmathstutor.com, text book</p>		
<p>FEET Award Challenge for this Learning Programme: LP2 Year 12 Physics : Support with lower school STEM Club</p>		

