

## Year 13 Mathematics - Mechanics

### Learning Programme 4

<p>The LORIC skill focus for his LP is: INITIATIVE. The Moral Virtues focus for this LP are: INTEGRITY and GRATITUDE.</p> <p>Integrity - Having strong moral principles. Gratitude - Feeling and expressing thanks.</p> <p><b>What will I be learning about in this Learning Programme?</b> In LP4 I will be learning about moments, friction, resolving forces and projectiles.</p> <p><b>Where have I seen this learning before?</b> Yr12: basic mechanics, equilibrium, resolving forces and equations of motion.</p> <p><b>What could I use it for?</b> The knowledge and skills I will learn in this learning programme will allow me to solve kinematics problems. This knowledge is vital in careers such as engineering.</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 LP4.1, I will know:</b></p> <p>how to solve problems involving moments; how to calculate resultant moments; how to solve problems involving equilibrium.</p>	<p>10/03/25 - (WK 2)</p> <p><b>Key Vocabulary</b></p> <p>Moment</p>	<p><b>Homework</b></p> <p>Targeted Exam Paper Practice</p>
<p><b>In LP4.2, I will know:</b></p> <p>how to resolve forces on inclined planes; how to solve problems involving friction.</p>	<p>17/03/25 - (WK 1)</p> <p><b>Key Vocabulary</b></p> <p>Friction</p>	<p><b>Homework</b></p> <p>Targeted Exam Paper Practice</p>
<p><b>In LP4.3, I will know:</b></p> <p>how to find horizontal and vertical components of projectile motion; how to solve projectile problems at any angle.</p> <p>Extended Task.</p>	<p>24/03/25 - (WK 2)</p> <p><b>Key Vocabulary</b></p> <p>Projectile</p>	<p><b>Homework</b></p> <p>Targeted Exam Paper Practice</p>
<p><b>In LP4.4, I will know:</b></p> <p>how to solve problems involving static particles; including on inclined planes; how to solve problems involving dynamics; including on inclined planes; how solve connected particle problems.</p>	<p>31/03/25 - (WK 1)</p> <p><b>Key Vocabulary</b></p> <p>Tension</p>	<p><b>Homework</b></p> <p>Targeted Exam Paper Practice</p>
<p><b>In LP4.5, I will know:</b></p> <p>how to solve vectors problems with projectiles; how to use calculus to solve variable acceleration problems in two dimensions.</p>	<p>21/04/25 - (WK 2)</p> <p><b>Key Vocabulary</b></p> <p>Acceleration</p>	<p><b>Homework</b></p> <p>Targeted Exam Paper Practice</p>
<p><b>In LP4.6, I will know:</b></p> <p>how to apply all knowledge acquired so far to exam questions</p> <p>Extended Task.</p>	<p>28/04/25 - (WK 1)</p> <p><b>Key Vocabulary</b></p> <p>Revision</p>	<p><b>Homework</b></p> <p>Targeted Exam Paper Practice</p>
<p><b>In LP4.7, I will know:</b></p> <p>how to apply all knowledge acquired so far to exam questions</p>	<p>05/05/25 - (WK 2)</p> <p><b>Key Vocabulary</b></p> <p>Revision</p>	<p><b>Homework</b></p> <p>Targeted Exam Paper Practice</p>
<p><b>Resources to support learning:</b></p> <p>Use your knowledge organisers to support with revision and recall. Here are some online resources to further support you in your Mathematics revision beyond the classroom. All weekly homework tasks area based on the exercises from the book. In addition to homework, Pupils should use questions not used in class plus the review exercises to help support learning from outside the classroom. Online Resource for homework and exam practice: <a href="https://www.dr frostmaths.com/">https://www.dr frostmaths.com/</a>. Topic based exam questions - <a href="https://www.mathsgenie.co.uk/">https://www.mathsgenie.co.uk/</a></p>		
<p><b>FFET Award Challenge for this Learning Programme:</b></p> <p>Create a revision mind/map or poster of any of the Pure Maths chapters.</p>		

