

Year 11 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 Compassion - the quality of feeling pity and concern for the sufferings or misfortunes of others. Honesty - the quality of being truthful.</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>What will I be learning about in this Learning Programme? Forces and their effects</p>		
<p>Where have I seen this learning before? You have explored basic forces and motion at KS3 and in primary school. During LP1 we began to study forces and we will be further developing this understanding.</p> <p>What could I use it for? Understanding forces is crucial for mechanical and civil engineering, sport, building/construction, astrophysics and architecture.</p>		
<p>In LP2.1, I will know: 21/10/24 - (WK 2)</p>		
<p>how to describe an object that has been bent, stretched or compressed as being elastically deformed or inelastically deformed, and use the equation $F=ke$; how to calculate the work done in stretching (or compressing) a spring using $E_e = \frac{1}{2} ke^2$; RP6: investigate the relationship between force and extension for a spring.</p>	<p>Key Vocabulary</p> <p>Proportionality</p>	<p>Homework</p> <p>Investigating springs worksheet</p>
<p>In LP2.2, I will know: 04/11/24 - (WK 1)</p>		
<p>how to distinguish between distance and displacement, and speed and velocity; how to calculate speed and velocity; how to define and calculate acceleration; how to analyse motion graphs, including distance-time and velocity-time graphs.</p>	<p>Key Vocabulary</p> <p>Displacement Velocity Acceleration</p>	<p>Homework</p> <p>Acceleration worksheet</p>
<p>LP2 RLW, I will: 11/11/24 - (WK 2)</p>		
<p>review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.</p>		
<p>In LP2.3, I will know: 18/11/24 - (WK 1)</p>		
<p>how to explain Newton's Laws and recognise examples of Newton's 1st and 3rd law in action; how to describe the relationship between Force, mass and acceleration = Newtons 2nd Law; how to explain why an object reaches terminal velocity in terms of the forces involved and acceleration.</p> <p>Extended Task.</p>	<p>Key Vocabulary</p> <p>Terminal velocity</p>	<p>Homework</p> <p>Terminal velocity exam question</p>
<p>In LP2.4, I will know: 25/11/24 - (WK 2)</p>		
<p>how to investigate the acceleration of an object by varying the Force or mass; how to describe and explain the factors that affect both thinking distance and braking distance. Describe an experiment used to estimate reaction times; LP2 summative assessment. my strengths and areas for developments following the LP2 formative assessment and PRT.</p>	<p>Key Vocabulary</p> <p>Inertia</p>	<p>Homework</p> <p>acceleration required practical exam question</p>
<p>In LP2.5, I will know: 02/12/24 - (WK 1)</p>		
<p>how to calculate stopping distances. Estimate the forces required to produce a deceleration on a typical road, and the distance required for road vehicles to stop in an emergency; how to define momentum, apply and rearrange the equation $p=mv$ and describe the conservation of momentum in closed systems (collisions or explosions);</p>	<p>Key Vocabulary</p> <p>Collision</p>	<p>Homework</p> <p>Stopping distance exam question</p>
<p>In LP2.6, I will know: 09/12/24 - (WK 2)</p>		
<p>how to prepare for my summative assessment.</p> <p>Extended Task.</p>	<p>Key Vocabulary</p>	<p>Homework</p> <p>Revision</p>
<p>In LP2.7, I will know: 16/12/24 - (WK 1)</p>		
<p>how to describe the motion of particles in both transverse and longitudinal waves. Define amplitude, frequency and wavelength; how to rearrange and apply the equation $\text{speed} = \text{frequency} \times \text{wavelength}$, using standard form where required; my strengths and areas for developments following the summative assessment and PRT.</p>	<p>Key Vocabulary</p> <p>Frequency</p>	<p>Homework</p> <p>longitudinal vs transverse waves exam questions</p>
<p>Resources to support learning: Knowledge organiser, topic booklet, GCSE BBCbitesize, www.physicsandmathstutor.com</p>		
<p>FFET Award Challenge for this Learning Programme: LP2 Year11 Science: Complete a practice paper independently</p>		

PRT Task 1

PRT Task 2