

Year 12 Mathematics - Mechanics

Learning Programme 1

The LORIC skill focus for this LP is: LEADERSHIP The Moral Virtues focus for this LP are: COURAGE and HUMILITY. Courage - Acting with bravery and overcoming fears. Humility - Having a modest view of oneself. What will I be learning about in this Learning Programme? In LP1 I will be learning about modelling in mechanics, acceleration, forces and connected particles. Where have I seen this learning before? GCSE: velocity-time graphs, speed calculations. Year 12: vectors in Pure Mathematics What could I use it for? The knowledge and skills I will learn in this learning programme will allow me to solve mechanics and physics problems involving forces. These skills are used by engineers.		Literacy: - 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
In LP1.1, I will know: how to use models in mechanics; how to work with vectors in mechanics.	31/08/26 - (WK 1) Frayer Model Words Vector	Homework Vectors Worksheet
In LP1.2, I will know: how to draw and interpret velocity-time graphs; how to derive the constant acceleration formulae.	07/09/26 - (WK 2) Frayer Model Words Acceleration	Homework Velocity-Time Graphs Worksheet
In LP1.3, I will know: how to solve problems with the constant acceleration formulae; how to solve problems involving vertical motion. Extended Task.	14/09/26 - (WK 1) Frayer Model Words Gravity	Homework SUVAT Worksheet
In LP1.4, I will know: how to solve problems involving forces in equilibrium; how to draw force diagrams.	21/09/26 - (WK 2) Frayer Model Words Equilibrium	Homework Forces Worksheet
In LP1.5, I will know: how to solve problems with forces by using vectors; how to solve problems using Newton's Laws of motion.	28/09/26 - (WK 1) Frayer Model Words Resolve	Homework Resolving Forces Worksheet
In LP1.6, I will know: how to solve problems involving motion in 2 dimensions; how to solve connected particle problems for horizontal motion. Extended Task.	05/10/26 - (WK 2) Frayer Model Words Pulley	Homework Connected Particles Worksheet 1
In LP1.7, I will know: how to solve connected particle problems for vertical motion; how to solve connected particle problems for motion in two directions.	12/10/26 - (WK 1) Frayer Model Words Tension	Homework Connected Particles Worksheet 2
Resources to support learning: 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: https://www.drfrostmaths.com/. Topic based exam questions - https://www.mathsgenie.co.uk/		
FEET Award Challenge for this Learning Programme: Time yourself completing your journey to school. Create a distance-time graph and a velocity-time showing the information. Use your graphs to calculate the velocity and acceleration at different points of your journey.		

