

Year 12 Modelling Physics

Learning Programme 1

The LORIC skill focus for his LP is: LEADERSHIP			Literacy Non-Negotiables: • 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 • Vocabulary to be taught using the Frayer model
The Moral Virtues focus for this LP are: COURAGE and HUMILITY.			
Courage - Acting with bravery and overcoming fears. I will show courage by answering a question in class even when I'm not 100% sure of the answer.			
Humility - Having a modest view of oneself. I will show humility by admitting mistakes and asking for help when needed.			
What will I be learning about in this Learning Programme? How physicists make accurate measurements and calculate uncertainty. How forces can be used to explain and predict motion.			
Where have I seen this learning before? You have encountered the fundamentals of forces and motion at GCSE and KS3.			
What could I use it for? Understanding the characteristics of forces is crucial for mechanical engineering.			
In LP1.1, I will know:	01/09/26 - (WK 1)	Key Vocabulary	Homework
How to describe physical quantities have a numerical value and a unit, prefixes and their symbols to indicate decimal submultiples or multiples of units; How to derive units as S.I. base units.		S.I. Base Units	Foundations in Physics workbook - units
In LP1.2, I will know:	07/09/26 - (WK 2)	Key Vocabulary	Homework
How to calculate absolute and percentage uncertainties when data are combined by addition, subtraction, multiplication, division and raising to powers; How to describe scalar and vector quantities.		Prefix	Foundations in Physics workbook - vectors
In LP1.3, I will know:	14/09/26 - (WK 1)	Key Vocabulary	Homework
How to use scale diagrams of triangles to determine the resultant of any two coplanar vectors; How to resolve a vector into two perpendicular components; $F_x = F \cos \theta$; $F_y = F \sin \theta$.		Vector	Motion workbook questions - vector diagrams
Extended Task.			
In LP1.4, I will know:	21/09/26 - (WK 2)	Key Vocabulary	Homework
How to define displacement, instantaneous speed, average speed, velocity and acceleration; My strengths and areas for developments following the LP1 formative assessment and PRT.		Displacement	Motion workbook questions - Distance, speed, displacement, velocity and acceleration questions
In LP1.5, I will know:	28/09/26 - (WK 1)	Key Vocabulary	Homework
How to use displacement–time graphs; velocity is gradient; How to use velocity–time graphs; acceleration is gradient; displacement is area under graph.		Acceleration	Motion workbook questions - Graphs of Motion
In LP1.6, I will know:	05/10/26 - (WK 2)	Key Vocabulary	Homework
How to use the equations of motion for constant acceleration in a straight line; How to describe reaction time and thinking distance; braking distance and stopping distance for a vehicle.		Reaction time	Motion workbook - The (SUVAT) Equations of Uniformly Accelerated Motion
Extended Task.			
In LP1.7, I will know:	12/10/26 - (WK 1)	Key Vocabulary	Homework
How to carry out the PAG 1.3 stopping distances investigation; My strengths and areas for developments following the LP1 summative assessment and PRT.		Projectile motion	Practical write up
Resources to support learning: Textbook, www.physicsandmathstutor.com , www.marlingphysics.co.uk , Synergy, EPC Knowledge Organiser.			
FFET Award Challenge for this Learning Programme: Watch the Rough Science series and write a short review on what you have learnt about how Science can be used to solve problems in the real world.			

PRT Task 1

PRT Task 2