

Curriculum Map

Subject: Physics



Year: 10

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Content</p> <p>Knowledge</p>	<p>Radioactivity:</p> <ul style="list-style-type: none"> • Atoms and Radiation • Discovery of the Nucleus • Alpha, Beta and Gamma Radiation • Activity and Half-life • Nuclear Fusion and Fission • Nuclear Radiation in Medicine 	<p>Forces in Balance:</p> <ul style="list-style-type: none"> • Vectors and Scalars • Resultant Forces • Moments and Equilibrium • Levers and Gears • Centre of Mass • Resolution of Forces 	<p>Motion:</p> <ul style="list-style-type: none"> • Speed and Distance-Time Graphs • Velocity and acceleration • Analysing Motion Graphs 	<p>Force and Motion:</p> <ul style="list-style-type: none"> • Force and acceleration • Weight and terminal velocity • Forces and braking • Momentum and conservation of momentum • Impact forces and Impulse • Car safety <p>Required Practicals:</p> <ul style="list-style-type: none"> • Investigating the relationship between force and acceleration • Investigating the relationship between force and the extension of a spring 	<p>Force and Pressure:</p> <ul style="list-style-type: none"> • Pressure and surfaces • Pressure in a liquid at rest • Atmospheric pressure • Upthrust and flotation 	<p>Revision</p> <ul style="list-style-type: none"> • To focus on recapping key knowledge and re-address common misconceptions • Embed additional exam practice for each chapter • Focus on key aspects of required practicals

Skills	<ul style="list-style-type: none"> To recall and identify correct scientific knowledge To be able to construct and complete radioactivity decay equations correctly 	<ul style="list-style-type: none"> To recall and identify correct scientific knowledge 	<ul style="list-style-type: none"> To be able to draw and analyse graphs correctly 	<ul style="list-style-type: none"> To recall and identify correct scientific knowledge To be able to use and manipulate $f = ma$ equation To be able to use stop watch accurately To be able to use a ruler effectively to measure length 	<ul style="list-style-type: none"> To recall and identify correct scientific knowledge To be able to use and manipulate the pressure equations correctly 	<ul style="list-style-type: none"> Recalling important information Exam Technique Spacing Interleaving Elaboration
Key Questions	What were the key discoveries that led to the development of the model of the nuclear model of the atom?	How can moments help to left heavy objects?	How can you work out the acceleration of an object from a speed-time graph?	Why do falling objects not constantly speed up?	Why does pressure change the further up you go in the atmosphere?	
Assessment	Diagnostic test on P7 ReACT tasks P7 End of Chapter Test	Diagnostic test on P8 ReACT tasks P8 End of Chapter Test	Diagnostic test on P9 ReACT tasks P9 End of Chapter Test	Diagnostic test on P10 ReACT tasks P10 End of Chapter Test	Diagnostic test on P11 ReACT tasks P11 End of Chapter Test	End of year test on topics: P3, P2, P6, P, P4, P7, P9, P10, P10 and P11
Literacy/numeracy/SMSC/Character	<p>Key words: Alpha, Beta, Gamma Radiation, Atomic Number, Mass Number, Isotopes, Ionisation, Irradiation, Activity, Count Rate, Chain Reaction, Nuclear Fusion, Nuclear Fission</p> <p>Numeracy: Interpreting mass and atomic</p>	<p>Key words: Displacement, Vector, Scalar, Magnitude, Newton's 1st and 3rd Law, Friction, Resultant Force, Moment</p> <p>Numeracy: Calculating resultant force and moments and order of magnitude</p>	<p>Key words: Gradient, acceleration, deceleration, tangent,</p> <p>Numeracy: Interpreting and analysing graphs correctly and calculating gradients and tangents</p>	<p>Key words: Newton's 2nd Law, Weight, Mass, Terminal Velocity, Gravitational field strength, stopping distance, thinking distance, braking distance, momentum</p> <p>Numeracy: Calculating momentum and order of</p>	<p>Key words: Pressure, Upthrust, Density</p> <p>Numeracy: Calculating pressure and density in different situations.</p>	

	number notation in radioactive decay equations			magnitude		
Enrichment opportunities and futures	Visiting the Science Museum in Central London Investigate how radiation is used in hospitals (ie. CT scanners, PET scanners etc)					