

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 breaking • 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	<p>What were the key discoveries that led to the development of the model of the nuclear model of the atom?</p>	<p>How can moments help to lift heavy objects?</p>	<p>How can you work out the acceleration of an object from a speed-time graph?</p>	<p>Why do falling objects not constantly speed up?</p>	<p>Why does pressure change the further up you go in the atmosphere?</p>	
Assessment	<p>Diagnostic test on P7 ReACT tasks P7 End of Chapter Test</p>	<p>Diagnostic test on P8 ReACT tasks P8 End of Chapter Test</p>	<p>Diagnostic test on P9 ReACT tasks P9 End of Chapter Test</p>	<p>Diagnostic test on P10 ReACT tasks P10 End of Chapter Test</p>	<p>Diagnostic test on P11 ReACT tasks P11 End of Chapter Test</p>	<p>End of year test on topics: P3, P2, P6, P, P4, P7, P9, P10, P10 and P11</p>

<p>Literacy/numeracy/SMSC/Character</p>	<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 number notation in radioactive decay equations</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 magnitude</p>	<p>Key words: Pressure, Upthrust, Density</p> <p>Numeracy: Calculating pressure and order of magnitude</p>	
<p>Enrichment opportunities and futures</p>	<p>Visiting the Science Museum in Central London Investigate how radiation is used in hospitals (ie. CT scanners, PET scanners etc)</p>					