

## SUBJECT CURRICULUM OUTLINE

Yr10

<b>Term</b>	<b>Topic/Unit of work</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Assessment</b>
Summer Term 2	Electricity	Static; current; pd; resistance;	Practical skills: -reading circuit diagrams and building circuits	Three weekly STAMP assessments
Autumn Term 1	Electricity	IV characteristics Ohms law Series & parallel circuit Mains electricity Power & energy transfers National Grid & Efficiency in National Grid	Maths for science - units, graphing skill and applying and rearranging simple equations Practical skills (I-V characteristics / resistance in a wire / resistors in series and parallel): -reading circuit diagrams and building circuits, investigating circuits, interpreting results, reliable use of measuring equipment, safe use of equipment - Required practicals Revisiting graph drawing skills - IV graphs Maths for Science - Revisiting applying and rearranging simple equations Use of scientific vocabulary	Three weekly STAMP assessments  Yr10 PR1 extended STAMP
Autumn Term 2	Particle model	Changes of state and particle model, internal energy, specific heat capacity, latent, pressure in gases	Understanding how scientific theory evolves Using models to explain ideas Practical - revisiting safety in the lab and using a method, analysing results Practical skills - determining density of regular objects, irregular objects and liquids Maths for Science - Applying and rearranging equations	Three weekly STAMP assessments

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			Practical skills - separating mixtures	
Spring Term 1	Atomic structure	Structure of the atom, history of the atom, isotopes, radioactive decay, 3 types of radiation, nuclear equations	<p>Maths skills - standard form, ratios, fractions and percentages, Substitute numerical values into algebraic equations, graph skills (half life)</p> <p>Working scientifically - prefixes and powers of ten for orders of magnitude, scientific vocabulary, terminology and definitions, Understand how scientific methods and theories develop over time.</p>	Three weekly STAMP assessments
Spring Term 2	Atomic structure	Radioactive contamination & hazards, background radiation, uses of nuclear radiation, nuclear fission & fusion	<p>Explain everyday and technological applications of science; evaluate associated personal, social, economic and environmental implications; and make decisions based on the evaluation of evidence and arguments.</p> <p>Evaluate risks both in practical science and the wider societal context, including perception of risk in relation to data and consequences.</p>	<p>Three weekly STAMP assessments</p> <p>Progress check 2 - extended STAMP 2</p>
Summer Term 1	Forces	Recap of interaction pairs; Recap of weight & gravity; Resultant forces; Work done; elastic & inelastic deformation; elastic pe.;	<p>Practical skills- Hooke's Law</p> <p>Work done- frictional surfaces</p> <p>Maths skills - collecting reliable data and evaluating graphs, measurement skills, comparing units, rearranging equations</p>	Three weekly STAMP assessments

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Summer Term 2		Moments, levers & gears; pressure; distance & velocity - time graphs; acceleration	Use of ratios and proportional reasoning to convert units and to compute rates.	Three weekly STAMP assessments  Year 10 June Exam -
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Yr11

Term	Topic/Unit of work	Knowledge	Skills	Assessment
Autumn Term 1	Forces	Newton's laws (incl. reqd. pracs); Terminal velocity; resolving forces & free body diagrams; Stopping distance; Momentum;	Practical skills; analysing data & graphs; scientific vocabulary & definitions	Three weekly STAMP assessments
Autumn Term 2	Waves	Transverse and longitudinal waves, properties of waves, reflection of waves, sound waves, waves for detection & exploration, types of electromagnetic waves, properties of electromagnetic waves, uses and applications of electromagnetic waves, lenses, visible light, black body radiation	Practical skills - investigate the reflection of light by different types of surface and the refraction of light by different substances, investigate how the amount of infrared radiation absorbed or radiated by a surface depends on the nature of that surface	Three weekly STAMP assessments  Unit 1 Mock exam
Spring Term 1	Magnetism and electromagnetism	Permanent and induced magnetism, magnetic forces and fields Magnet fields and patterns The motor effect Induced potential, transformers and the National Grid	Practical skills - Maths skills - units, rearranging equations, Look at patterns and draw diagrams interpret diagrams of electromagnetic devices in	Three weekly STAMP assessments  Unit 2 Mock exam
Spring Term 2	Space	Content & structure of the universe; Life cycle of a star; orbits; Red shift; origin of the universe;	scientific vocabulary & definitions.	Three weekly STAMP assessments
Summer Term 1	Revision			Three weekly STAMP assessments

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Summer Term 2	Revision			Three weekly STAMP assessments  Year 10 June Exam -
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