



Academic Learning Plan 2023-2024

Year 10 PHYSICS

Intent: Students should study the sciences in ways that help them to develop curiosity about the natural world, that give them an insight into how science works and that enable them to appreciate its relevance to their everyday lives. The scope and nature of the study should be broad, coherent, practical, and satisfying. It should encourage students to be inspired, motivated, and challenged by the subject and its achievements.



Year 10 Units	Term 1	Term 2	Term 3
	Comb: P7/8 Energy & Forces	Comb: P6 Radioactivity	Comb: P9 Electricity
	Triple: P9 Energy & Forces	Triple: P6 Radioactivity	Triple: P10 Electricity
Physics Concepts	Common to both Work and power Objects affecting each other Vector diagrams Triple Rotational forces	Common to both Atomic models Inside atoms Electrons and orbits Background radiation Types of radiation Radioactive decay Half-life Using radioactivity Dangers of radioactivity P6: Triple Only Radioactivity in medicine Nuclear energy Nuclear fission Nuclear fusion	Common to both Electric circuits Current and potential difference Current, charge and energy Resistance More about resistance Core practical – Investigating resistance Transferring energy Power Transferring energy by electricity Electrical safety
Year 10 Units	Term 4	Term 5	Term 6
	Comb: P10 Magnetism	Comb: P4 Waves	Comb: P5 - EM spectrum
	Triple: P11 Static	Triple: P4 Waves & Sounds	Triple: P5 - Light & EM spectrum
	P11: Triple Charges and static electricity Dangers and uses of static electricity Electric fields P10: Combined Magnets and magnetic fields Electromagnetism Magnetic forces Transformers Transformers and energy	Common to both Describing waves Wave speeds Core practical – Investigating waves Refraction Waves crossing boundaries P4: Triple Only Waves crossing boundaries Ears and hearing Ultrasound Infrasound	Common to both Electromagnetic waves The electromagnetic spectrum Using the long wavelengths Radiation and temperature Core practical – Investigating radiation Using the short wavelengths EM radiation dangers P5: Triple Only Ray diagrams Core practical – Investigating refraction Colour Lenses

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Literacy Comb Word Sheets	Comb: P7/8 Energy & Forces	Comb: P6 Radioactivity	Comb: P9 Electricity	Comb: P10 Magnetism	P4 Waves	P5 - EM spectrum
Literacy Triple Word Sheets	Triple: P9 Energy & Forces	Triple: P6 Radioactivity	Triple: P10 Electricity	Triple: P11 Static	P4 Waves & sounds	P5 - Light & EM spectrum
Knowledge organisers	Triple: P9 Energy & Forces Comb: P7/8 Energy & Forces	Triple P6: Radioactivity Comb: P6 Radioactivity	Triple P10 Electricity Comb: P9 Electricity	Triple P11: Static Comb: P10 Magnetism	Triple: P4 Waves Comb: P4 Waves	P5 - Light & EM spectrum
Assessment:	Common to Triple & Combined Forces doing work	Common to Triple & Combined Forces doing work & Radioactivity	Common to Triple & Combined Forces doing work, radioactivity & electricity	Triple Forces doing work, radioactivity, electricity & static Combined Forces doing work, radioactivity, electricity & magnetism	Triple Forces doing work, radioactivity, electricity, static & waves Combined Forces doing work, radioactivity, electricity, magnetism & waves	Common to Triple & Combined End of Year Assessment will test all content covered during year 9 & 10
GCSE AO Link (or other) if applicable	<p>In science the assessment objectives are: AO1 Demonstrate knowledge and understanding. AO2 Apply knowledge and understanding. AO3 Analyse information and ideas. These are all covered in each block of three modules.</p>					
Homework	One piece of homework per fortnight, for up to 45 minutes. Tasks to include, key word tasks, reading comprehension, quizzes and assessment questions					
CEIAG- STEM careers that link to these topics:	Power Engineer Quantum Physicist Engineer	Nuclear Physicist Radiographer	Electrician Electrical engineer	Geomagnetic scientist Engineer Materials Engineer	Ultrasound technician Optician Laser Specialist	Optics Microwave Engineer
Enrichment	Additional Content at A level will be provided to the Triple Scientists as appropriate topics are covered.					