



Curriculum Plan *Trilogy Physics*



Year 11	Golden Treads: State the big ideas that will be taught across the year (Threshold concepts) Forces and motion, matter				Enrichment: What is offered through the year to support learning in the classroom?		Review and evaluation: Give date for review of the curriculum July 2024
	Topics	Assessment	Substantive Knowledge	Disciplinary Knowledge	Misconceptions	Key Vocabulary	Knowledge tracking
Term 1	Forces	Assessment Mock 1 – Paper 1 content	Forces and their interactions Scalar and vector quantities Contact and non-contact forces Gravity Resultant forces Work done and energy transfer Forces and elasticity Forces and motion Distance and displacement Speed Velocity The distance–time relationship Acceleration Newton's 3 laws Stopping distance Reaction time Factors affecting braking distance Momentum (HT only) Momentum is a property of moving objects Conservation of momentum	Required practical – investigate the relationship between force and extension for a spring. AT 1 and 2	if an object has a speed of zero (even instantaneously), it has no acceleration a compact object (such as a ball or a stone) falls at a constant speed which depends on how heavy it is forces can only be exerted by living things and some machines, but not by inanimate objects friction arises only when there is motion	contact force resultant scalar vector moment displacement inertia velocity acceleration terminal velocity	Prior learning – floating and sinking, Forces Year 9, Forces Year 8 and in Year 7 term 1+3 Leading onto – atomic forces next topic.
Term 2	Waves	Mock Assessment 2 – Forces and waves	Waves in air, fluids and solids Transverse and longitudinal waves Properties of waves Reflection of waves Sound waves Waves for detection and exploration Electromagnetic waves Types of electromagnetic waves	Required Practical 8: Make observations to identify the suitability of apparatus to measure the frequency, wavelength and speed of waves in a ripple tank and waves in a solid and take appropriate measurements. Required practical 9: Investigate the reflection of	Matter moves with the wave. Light as made of bits. Confusing amplitude and frequency related to pitch and volume.	absorption amplitude compression frequency incidence longitudinal mechanical wave oscillate	Prior learning: Year 9 – Waves on water and rope. Year 8 – Making images Year 7 – Light, seeing colour



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			Properties of electromagnetic waves 1 Properties of electromagnetic waves 2 Uses and applications of electromagnetic waves Lenses Visible light Black Body radiation Emission and absorption of infrared radiation Perfect black bodies and radiation	light by different types of surface and the refraction of light by different substances Required practical 10: investigate how the amount of infrared radiation absorbed or radiated by a surface depends on the nature of that surface	Sound can travel through space and that it isn't absorbed. Sound needs an unobstructed path.	period ray diagram reflection rarefaction transmission transverse wavelength wave speed	
Term 3	Magnetism and Electromagnets	Assessment Week 2 Forces	Permanent and induced magnetism, magnetic forces and fields Poles of a magnet Magnetic fields The motor effect Electromagnetism Fleming's left-hand rule Electric motors Loudspeakers Induced potential, transformers and the National Grid Induced potential Uses of the generator effect Microphones Transformers		All metals (especially copper) are magnetic Larger magnets are stronger	attraction electromagnet induced magnetic field magnetic flux density motor effect split-ring commutator permanent repulsion solenoid	Prior learning: Year 9 – magnets and electromagnets Year 8 – Simple circuits
Term 4	Revision						
Term 5							

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Term 6							
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