



The Fisher Way: Curriculum



The Fisher Way aims to educate and inspire with joy, faith and love because we are an inclusive Catholic community.

Successful and resilient learners who aspire to and achieve excellence

Confident individuals who can explore and communicate effectively

Responsible citizens who are active, loving and wise in all their endeavours

Subject	Physics
Year Group	Year 9
Intent	<p>Successful and resilient learners: who are able to use their physics knowledge and their scientific skills to investigate the world around them and solve problems associated with the workings of the physical world.</p> <p>Confident individuals: who can apply their knowledge of forces, energy, waves and the particle model of matter to understand, interpret, challenge and articulate what happens in the wider world.</p> <p>Responsible citizens: who are able to distinguish between what we CAN do as scientists and what is morally right for us to do as human beings. Pupils should be able to suggest solutions to some of the world's problems such as global</p>

	warming and pollution and should be able to evaluate and debate the issues around current global issues such as Power Generation and Energy Use. They should be able to use the skills of working scientifically and their understanding to help them make informed decisions in later life to benefit both themselves and the wider world.					
Narrative	<p>The P5 and P6 modules studied in the first half of the year build on the work done in year 7 in the P1 module (forces, light & sound) and the year 8 modules P3 (Waves and Magnets) and P4 (work and energy transfers). The P7 & P8 modules studied in the second half of the year build on the work done in the P2 module in Year 7 (electricity) and the P4 module studied in Year 8 (energy transfers)</p> <p>All learners will be able to identify and label the parts of longitudinal and transverse waves. They will be able to describe how light and sound interact with a boundary and draw the ray diagrams for these interactions. Learners will be able to calculate the speed of a wave, its frequency and its wavelength. They will be able to describe how frequency and amplitude affect the sound that is produced. The knowledge of waves is key knowledge required for the P13 (Electromagnetic waves) module studied in Year 11.</p> <p>All learners will know the difference between a scalar and a vector quantity. They will be able to calculate the speed, velocity and acceleration of an object. Learner will know what work done is and how this relates to energy transfers. Learners will be able to apply this knowledge on calculating speed, velocity and acceleration to solve questions based on real world situations. The work on speed, velocity, acceleration and work done is key knowledge that is required for the P9 (Forces, Elasticity and Newton's Laws) and P10 (Energy Changes Involving Equations) modules studied in year 10 and the P14 (Momentum) module in Year 11.</p> <p>All learners will be able to construct a circuit diagram for a series and parallel circuit. They will know how current, potential difference and resistance differ in a series and parallel circuit. Learners will be able to apply Ohm's law and the formula relating current, potential difference and resistance to circuit problems. Learners will have a knowledge of the characteristics of common electrical components and how these characteristics can be used in real world applications. This understanding of the electrical components and electrical circuits is key knowledge required for the P12 module (Domestic Electricity) studied in years 10 & 11 and the P16 module (Electromagnetism) studied in year 11.</p>					
Half term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge (topics studied)	P5 waves	P5 Waves P6 Forces, scalar and vector quantities – distance/ displacement, velocity & acceleration	P6 Forces, scalar and vector quantities – distance / displacement, velocity & acceleration	P7 Electric charge, current, voltage and resistance	P7 Electric charge, current, voltage and resistance	P8 Power & efficiency, national/global energy resources

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