Key Stage 3 Curriculum

Subject: Physics

Head of Department: Miss M. Mohammed

Science helps students to understand the phenomena that occur in us, and the world in which we live, as well as enhancing our knowledge of the universe.

Physics looks at the movement and phenomena that impact our way of life, and our connection with the universe.

In Key Stage 3, pupils study the following:

Term	Year 7	Year 8	Year 9
Autumn	Topic: Forces Fertile Q: Why don't we float off into space? Content: • Contact and non-contact forces • Gravity • Resultant forces • Forces & elasticity • Speed • Newton's First Law	Topic: Motion Fertile Q: How can you make rollercoasters exciting? Content: • Resultant forces • Work done & energy transfer • Scalar & vector quantities • Forces & motion	Topic: Newtonian Mechanics Fertile Q: How can I use Newton's Laws to make a car go faster? Content: • Power • Moments, levers & gears • Newton's First Law • Newton's Second Law • Newton's Third Law • Forces & braking • Momentum
Spring	Topic: Energy Fertile Q: How can we use the Earth's energy resources wisely? Content: • Energy stores & systems	Topic: Electricity and magnetism Fertile Q: Is electricity the most useful human invention? Content:	Topic: Matter Fertile Q: How can we prove the Law of Conservation of Energy? Content:

	• Changes in energy • Conservation and dissipation of energy • National and global energy resources	• Standard circuit diagram symbols • Electrical charge and current • Current, resistance and potential difference • Series Circuits • Domestic uses and safety • Energy transfers in everyday appliances • Power • Electric fields • Poles of a magnet • Magnetic field	• Energy changes in systems • Changes of state and the particle model • Internal energy and energy transfers • Particle model & pressure • Pressure & pressure differences in fluids
Summer	Topic: Waves Fertile Q: How can we use waves to explore our Universe? Content: • Transverse & longitudinal waves • Properties of waves • Sound waves • Waves for detection & exploration • Electromagnetic waves	Topic: Space Fertile Q: Are we alone in the Universe? Will we ever know? Content: • Solar system • Red shift • Waves for detection & exploration	Topic: Electricity & electromagnetism Fertile Q: How are magnetism and electricity linked to each other? Content: • Power • Resistors • Series and parallel circuits • The National Grid • Static electricity • Motor effect • Induced potential, transformers & National Grid