

KS3 YEAR 9 Physics Curriculum

Curriculum Intent: We seek through an ambitious and engaging curriculum to develop a sense of curiosity to wonder why and how things work, and to provide skills and knowledge to find the answer. The curriculum is spiralsised to introduce and build on key scientific concepts to help students understand complex ideas enriched by opportunities outside the classroom.

Forces and motion topic builds on the previous lessons in Year 7 about forces and the motion of objects. The motion then expands into the motion of the Earth and the structure of the Solar system. A link here is also made between forces and the gravitational field surrounding the Earth.

Energy is covered in year7, 8 and is now looked at numerically and at interchanging systems that are either closed or open linking all energy stores and transfers previously taught. Energy resources evaluated and links made to energy stores and transfers.

	Autumn Term			Spring Term			Summer Term		
Main Topic	Motion on Earth and in space			Energy			Transition to GCSE		
Key Concepts	Speed and motion graphs	Forces and equilibrium	Stars, Star systems, galaxies and the Universe	Energy stores and transfers	Work done And dissipation	Power and efficiency	Energy resources	Calculating energy	Specific heat capacity
Curriculum links	Speed equation (Yr7)	Force arrows (Yr7) Contact and non-contact forces (Yr7)	Planets of solar system (KS2) Seasons (KS2)	Sound (Yr7)		Energy transfer (Yr7)	9SP10 spring term	9SP10 spring term	9SP10 spring term
Cross-curricular links	Maths			Maths calculations			Maths-equations and rearranging		
Interleaving of skills	Using models Scientific theories Selecting equipment Drawing scientific diagrams. Using scientific equipment. Drawing graphs. Writing methods Identifying variables. Writing a conclusion Compare Making Observations			Compare Making Observations Using models Scientific theories Selecting equipment Drawing scientific diagrams. Using scientific equipment. Writing methods Identifying variables. Writing a conclusion			Using equations Writing methods Identifying variables. Writing a conclusion Compare Making Observations Using models Scientific theories		
Literacy	Calculate Gradient	Equilibrium Gravity Field Accelerate	Star Planet Orbit Ellipse Light-year Galaxy Universe	Energy stores Energy transfers Chemical Kinetic Gravitational Thermal Elastic	Dissipate Joule Conservation Closed system Open system	Equilibrium Conduction Convection Radiation Thermal Kilowatt-hour Power	Renewable Replenished Reliable Carbon neutral Non-renewable Greenhouse gases	Thermal Efficiency Sankey (diagram) Rearrange Convert	Mass Mass balance Density Temperatures Heater Joulemeter

			Parallax Lunar Eclipse Fusion Season	Nuclear Magnetic		Watt Joule			Degrees Celsius
Cultural capital	Journeys and predicting arrivals and length The changing seasons The night sky			Why does anything happen-the transfer of energy, the currency of the universe Electricity bills Choosing electrical appliances and machines based on their efficiency					
Careers	Aeronautical engineer Astronomer Car engineer Aviation engineer Flight engineer Space scientist Meteorologist			Telecommunications Product designer Physicist Mechanical engineer Sound design engineer Sound engineer Astronomer			Energy resources Global warming Climate change Power engineer National grid engineer Civil engineer Government adviser Global warming scientist Renewable energy engineer/scientist		
Assessment	9SP9 KMP Motion 9SP9 CKT Motion on Earth and in space			9SP10 KMP Energy 9SP10 CKT Energy			KMP SP10 Energy part 2 CKT SP10 Energy part 2		