

Quality of Education: Curriculum is planned and sequenced so that new **knowledge** and **skills** build on What has been taught before and towards its clearly defined end points.

SUBJECT: Physics		CURRICULUM PROGRESSION PATHWAYS		CL: Mr J. Kendrick-Eriksen and Mr B. Gott	
KS3 (Level 1) Physics	KS4 (Level 2) Physics	KS5 (Level 3) Physics	Further Education and training	Careers	
→		→		→	
<p><u>Electricity</u> Knowledge: Basic components, current and potential difference Skills: Building simple circuits, measuring current and potential difference using ammeters and voltmeters</p> <p><u>Space</u> Knowledge: Components of the universe, how Solar System was created, Seasons and Orbits. Skills: Using models to represent abstract concepts and large scales. Creating scientific theories</p> <p><u>Motion</u> Knowledge: Named forces and how they interact with each other, concept and importance of Friction. Skills: Measuring Forces</p>	<p><u>Electricity</u> Knowledge: Current, Charge, Resistance, Series & Parallel Circuits, Electrical Power, The National Grid, the Motor and the Generator effect. Skills: Building complex electrical circuits, investigating resistance in different components and inducing current.</p> <p><u>Space</u> Knowledge: Theories and evidence for the creation of the universe and components of it, Life cycle of stars, Centripetal force and orbital periods Skills: How satellites are suited to function based on orbits, Observations of phenomena over large scales and timeframes and how these influence scientific theory</p> <p><u>Motion</u> Knowledge: Resultant Force, Momentum, Moments, Centre of Mass, Acceleration, Impact forces and Car Safety. Skills: Measuring speed and acceleration of moving objects, calculating components of forces that are not opposite</p>	<p><u>Electricity</u> Knowledge: Resistivity, e.m.f., Internal Resistance, Electromagnetism, Potential Dividers, Capacitance, Electric Fields and Electric Potential. Skills: Using Calipers, Vernier scales, computer modeling and Datalogging</p> <p><u>Space</u> Knowledge: Circular Motion, Centripetal Acceleration, Gravitational Fields, Gravitational Potential, Escape Velocity, Evolution and Characteristics of stars and Cosmology Skills: Calculations of how objects can reach escape velocity or maintain orbits, Research Skills for independent projects.</p> <p><u>Motion</u> Knowledge: Kinematics, Simple Harmonic Motion, Linear and Projectile Motion, Dynamics, Mechanical Properties and</p>	<p>Apprenticeships:</p> <p>Aerospace Civil Engineering Ill Neutrons for Society CERN National Space Academy Electrician Laboratory Technicians Sound Technicians Software Development Mechanical Engineering</p> <p>Degree Level:</p> <p>Physics Planetary Science with Astronomy Aircraft Engineering Earth and Planetary Sciences Physics of the Environment</p> <p>Levels:</p> <p>Intermediate</p>	<p>Aerospace Engineer Architect Airline Pilot Astronaut Civil engineer Nuclear engineer Physicist Medical Physicist Research scientist Mechanical Engineer Experimental Physicist Data Scientist</p>	

Core knowledge and skills mapped across the curriculum

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<p>using Newton meters,</p>		<p>Newton's Laws Skills: Use of Light gates, Dataloggers, Research skills for Safety aspects and how Physics has influenced this</p>	<p>Advanced Higher Degree Masters P.H.D</p>	<p>Geophysical Researcher Armed Forces Engineer</p>
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