


<h2>Year 7: Physics</h2>	<p>Curriculum Intent: Students will secure a strong grounding in the fundamental principles of Physics. This includes the Motion, Waves, Electricity and Magnetism. These areas will be further built upon in Year 8, so a strong grasp of the key questions and the key practical skills are crucial. This core knowledge and procedural knowledge will be taught and revisited, ensuring the key questions are the central focus of lesson content. The knowledge developed will be constantly in use as the topics link together, along with the core topics in both Biology and Chemistry. Students will get the opportunity to demonstrate their knowledge through practical investigations and challenging tasks.</p>			
	<p align="center">Topic 1 Motion</p>	<p align="center">Topic 2 Waves (light and sound)</p>	<p align="center">Topic 3 Electricity (part 1)</p>	<p align="center">Topic 4 Magnetism</p>
<p align="center">Key ideas</p>	<p>That speed describes how fast an object is moving. When an object changes its speed, it accelerates or decelerates. An objects motion can be represented on a graph.</p>	<p>That there 2 types of waves. How light behaves and how sound behaves and similarities and differences between them. That light is part of a larger electromagnetic spectrum</p>	<p>That electricity flows round complete circuits. That you can measure how fast the electricity is flowing. And that the energy used in a circuit comes from the power supply and can be measured as voltage. That components provide resistance.</p>	<p>That some materials are magnetic and that a wire carrying a current makes a magnet.</p>
<p align="center">Sequence of Learning - Key Questions</p>	<ol style="list-style-type: none"> 1. What is speed and how do we calculate it and measure it? 2. How can you represent a journey on a distance-time graph? 3. What is acceleration and how can you calculate it and measure it? 4. How can you represent a journey on a speed-time graph? 	<ol style="list-style-type: none"> 1. What is the difference between a longitudinal and a transverse wave? 2. What are the definitions of: amplitude, wavelength, frequency? 3. What can waves do? 4. What are the parts of the EM spectrum? 5. How do we detect light and sound? 6. What are lenses and how can we use them? 	<ol style="list-style-type: none"> 1. How can we represent electrical circuits with symbols? 2. What is needed to make a complete circuit? 3. What is the difference between a conductor and an insulator? 4. How to measure current and potential difference? 5. What are the effects of changing potential difference in circuits? 6. What are the effects of increasing the number of components on current in a circuit loop & how is voltage 	<ol style="list-style-type: none"> 1. What happens when magnets, magnetic materials and non-magnetic metals are brought close to each other? 2. What materials can magnetism pass through? 3. How do we plot a magnetic field? 4. How to make an electromagnet? 5. What are the uses of electromagnets? 6. How can we vary the strength of an electromagnet?

			shared between components? 7. What is the effect of increasing the length of wire on current?	
Vocabulary	Speed Acceleration Deceleration Distance Time m/s km/s Equation m/s ² Distance-time graph Speed- time graph	Longitudinal Transverse Amplitude Frequency Wavelength Refraction Reflection Electromagnetic spectrum Cornea Lens Retina Ciliary Muscles Optic nerve Pupil Outer ear Ear bones Cochlea Auditory nerve Absorption Normal Raybox Ray	Conductors insulators Loop path components current series parallel voltage potential difference resistance flow energy	magnet electromagnet field pole attraction repulsion
Practical Skills	Measuring time Measuring distance Collecting data Tabulating data Control variables Plotting graphs Interpreting graphs	Using a raybox Measuring accurately with a protractor Interpreting data Predicting	Wiring a circuit Drawing circuit diagrams Measuring current and potential difference	Testing materials for magnetism. Investigating an electromagnet

Assessment (Related to mastery grids)	Written assessment of key topics	Written assessment of key topics	Written assessment of key topics	Report of investigation providing method, results, analysis and conclusion.
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