

Year	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
7	See Chemistry/Biology Overview	See Chemistry/Biology Overview	See Chemistry/Biology Overview	<p><b>Topic:</b> Energy and Forces</p> <p><b>Resources:</b> PP, Practical Activities, Handouts in Showbie.</p> <p><b>Focus:</b> Students will explore the fundamental concepts of energy transfer, forms of energy, and the role of forces in physical and chemical processes. They will investigate topics such as kinetic and potential energy, energy conservation, and the effects of forces on motion and stability. Through hands-on experiments and problem-solving activities, students will develop skills in scientific inquiry, data analysis, and critical thinking, enabling them to understand how energy and forces interact in various scientific contexts and everyday applications.</p> <p><b>Duration:</b> 18 lessons</p>	See Chemistry/Biology Overview	<p><b>Topic:</b> Waves and Light</p> <p><b>Resources:</b> PP, Practical Activities, Handouts on Showbie.</p> <p><b>Focus:</b> In this topic, pupils will explore the nature of waves, including mechanical and electromagnetic waves, with a focus on their properties, behaviours, and applications. They will learn about the electromagnetic spectrum, the characteristics of light, reflection, refraction, and the concept of wave-particle duality. Through practical investigations and experiments, students will develop essential skills in observation, data analysis, and critical thinking, enhancing their understanding of how waves and light influence the world around them and underpin various technologies.</p> <p><b>Duration:</b> 18 lesson</p>
8	<p><b>Topic:</b> Speed</p> <p><b>Resources:</b> PP, Practical Activities, Handouts on Showbie.</p> <p><b>Focus:</b> Describing motion and the relationship between speed, distance and time.</p>	See Chemistry/Biology Overview	See Chemistry/Biology Overview	<p><b>Topic:</b> Electricity</p> <p><b>Resources:</b> PP, Practical Activities, Handouts on Showbie.</p> <p><b>Focus:</b> Describing electrical circuits and understanding electricity in series and parallel circuits.</p>	See Chemistry/Biology Overview	See Chemistry/Biology Overview

	<p><b>Outcome:</b> Topic quiz.</p> <p><b>Duration:</b> 5 lessons</p> <p><b>Topic:</b> Heating and Cooling Resources: PP, Practical Activities, Handouts on Showbie.</p> <p><b>Focus:</b> Explaining how thermal energy transfer between objects leads to thermal equilibrium.</p> <p><b>Outcome:</b> Topic quiz.</p> <p><b>Duration:</b> 3 lessons</p>			<p><b>Outcome:</b> Topic quiz.</p> <p><b>Duration:</b> 8 lessons</p> <p><b>Topic:</b> Magnetism &amp; Electromagnetism</p> <p><b>Resources:</b> PP, Practical Activities, Handouts on Showbie.</p> <p><b>Focus:</b> Investigating the magnetic effect of currents in electromagnets and DC motors.</p> <p><b>Outcome:</b> Topic quiz.</p> <p><b>Duration:</b> 4 lessons</p>		
9	<p><b>Topic:</b> The Future is Green</p> <p><b>Resources:</b> PP, Practical Activities, Handouts on Showbie.</p> <p><b>Focus:</b> Students will learn about various energy sources, including fossil fuels, renewable energy, and nuclear power, examining their advantages, disadvantages, and environmental impacts. They will explore the concepts of energy efficiency, carbon footprints, and the science behind global warming, focusing on the role of greenhouse gases and climate change. Through discussions, research projects, and practical experiments, students will develop critical thinking, data analysis, and problem-solving skills, enabling them</p>	<p><b>Topic:</b> Out of This World</p> <p><b>Resources:</b> PP, Practical Activities, Handouts on Showbie.</p> <p><b>Focus:</b> Throughout this topic, students will explore the structure and dynamics of the universe, including the solar system, stars, galaxies, and the Big Bang theory. They will investigate the concepts of gravity, orbits, and the life cycle of stars, as well as the technology used for space exploration, such as telescopes and satellites. Through hands-on activities, discussions, and research projects, students will develop skills in scientific inquiry, critical thinking, and data interpretation, enhancing their understanding of the universe and our place within it.</p>	See Chemistry/Biology Overview	See Chemistry/Biology Overview	See Chemistry/Biology Overview	See Chemistry/Biology Overview

	<p>to understand the importance of sustainable energy practices and their implications for the future of the planet.</p> <p><b>Duration:</b> 14 Lessons</p>	<p><b>Duration:</b> 14 Lessons</p>				
10	<p><b>Topic:</b> Energy</p> <p><b>Resources:</b> PowerPoints, Practical Activities, Handouts in Showbie.</p> <p><b>Focus:</b> Learning about the core concept of energy. Pupils explore how energy can be transferred and dissipated, but never created or destroyed. The topic also includes a series of calculations to predict energy stores in different examples. RA Specific Heat Capacity and RA Insulation.</p> <p><b>Duration:</b> 8 lessons</p>	<p><b>Topic:</b> Particle Model of Matter (Combined Science)</p> <p><b>Resources:</b> PowerPoints, Practical Activities, Handouts in Showbie.</p> <p><b>Focus:</b> Exploring the arrangement of molecules in each state of matter, and how this relates to density. Calculating energy changes during heating (SHC) and state changes (SLH). The link between pressure, temperature and volume.</p> <p><b>Outcome:</b> Topic Test and RA 23 Density</p> <p><b>Duration:</b> 6 - 7 lessons (F/H/Sep)</p>	<p><b>Topic:</b> Atomic Structure</p> <p><b>Resources:</b> PowerPoints, Practical Activities, Handouts in Showbie.</p> <p><b>Focus:</b> Explaining the development of the nuclear model theory, atomic particles and their relative mass and size. Discovering radioactivity, half-life and contamination along with hazardous effect and disposal.</p> <p><b>Outcome:</b> Topic Test.</p> <p><b>Duration:</b> 4 - 6 lessons (F/H/Sep)</p>	See Chemistry/Biology Overview	See Chemistry/Biology Overview	<p><b>Topic:</b> Electricity</p> <p><b>Resources:</b> PowerPoints, Practical Activities, Handouts in Showbie.</p> <p><b>Focus:</b> Exploring current, resistance and voltage relationships for different circuit elements. Investigating domestic power supply, wiring and safety measures.</p> <p><b>Outcome:</b> Topic Test, RA 21 Resistance and RA 22 I-V Characteristics</p> <p><b>Duration:</b> 8 lessons</p>

<p><b>11</b></p>	<p>See Chemistry/Biology Overview</p>	<p>See Chemistry/Biology Overview</p>	<p><b>Topic:</b> Waves</p> <p><b>Resources:</b> PowerPoints, Practical Activities, Handouts, Physics Book.</p> <p><b>Focus:</b> Examining the electromagnetic spectrum, and associated hazards, the movement of waves and the relating velocity to frequency and wavelength. Exploring the effect of mediums on absorption, reflection and refraction.</p> <p><b>Outcome:</b> Topic Test, RA 26 Waves, RA Radiation and absorption.</p> <p><b>Duration:</b> 5 lessons</p>	<p><b>Topic:</b> Forces</p> <p><b>Resources:</b> PowerPoints, Practical Activities, Handouts, Physics Book.</p> <p><b>Focus:</b> Introducing vectors of forces, and fields of force (electrostatic, magnetic, GFS) and resultant motions. Calculating the work done by forces.</p> <p><b>Outcome:</b> Topic Test and RA24 Force and extension, RA 25 Acceleration.</p> <p><b>Duration:</b> 7 - 11 lessons (F/H/Sep)</p>	<p><b>Topic:</b> Electromagnetism</p> <p><b>Resources:</b> PowerPoints, Practical Activities, Handouts, Physics Book</p> <p><b>Focus:</b> Exploring the magnetic fields of permanent and induced magnets. How solenoids enhance the effects of magnets. The reason for the use of transformers in the national grid.</p> <p><b>Outcome:</b> Topic Test</p> <p><b>Duration:</b> 5 - 7 lessons (F/H/Sep)</p>	<p>See Chemistry/Biology Overview</p>
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