PHYSICS Curriculum Overview

Year	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
7	**Topic**: Energy **Resources**: PP, Practical Activities, Handouts, KS3 Book 1 **Focus**: Understanding energy transfers by fuels and foods. Comparing transfer rates. **Outcome**: Practical Assessment **Duration**: 8 lessons	**Topic**: Contact forces and speed **Resources**: PP, Practical Activities, Handouts, KS3 Book 2 **Focus**: The forces arising from the interaction of two objects, balanced and unbalanced. Work done and energy transfer. **Outcome**: End of Term Assessment **Duration**: 10 lessons	**Topic**: Universe **Resources**: PP, Practical Activities, Handouts, KS3 Book 1 **Focus**: Putting size of objects into a better perspective and learning how physical measurements over long distances can be made. **Outcome**: End of Term Assessment **Duration**: 6 lessons	**Topic**: Sound & Light **Resources**: PP, Practical Activities, Handouts, KS3 Book 1 **Focus**: Sound waves, vibrations, wavelengths and frequencies (Hz). The transmission of light through materials and scatter/ reflection actions. **Outcome**: Practical Assessment **Duration**: 9 lessons	See Chemistry/Biology Overview	See Chemistry/Biology Overview
8	**Topic**: Contact forces and speed **Resources**: PP, Practical Activities, Handouts, KS3 Book 2 **Focus**: The forces arising from the interaction of two objects, balanced and un-balanced. Work done and energy transfer. **Outcome**: End of Term Assessment **Duration**: 10 lessons	**Topic**: Energy – work done **Resources**: PP, Practical Activities, Handouts, KS3 Book 2 **Focus**: Investigation into simple machines, and how movement relates to force. **Outcome**: End of Term Assessment **Duration**: 2 lessons	**Topic**: Heating and Cooling **Resources**: PP, Practical Activities, Handouts, KS3 Book 2 **Focus**: Explaining how thermal energy transfer between objects leads to thermal equilibrium. **Outcome**: Practical Assessment **Duration**: 3 lessons	**Topic**: Electricity **Resources**: PP, Practical Activities, Handouts, KS3 Book 1 **Focus**: Describing electrical circuits and understanding electricity in series and parallel circuits. **Outcome**: Practical Assessment **Duration**: 8 lessons	**Topic**: Magnetism & Electromagnetism **Resources**: PP, Practical Activities, Handouts, KS3 Book 2 **Focus**: Investigating the magnetic effect of currents in electromagnets and DC motors. **Outcome**: End of Term Assessment **Duration**: 4 lessons	See Chemistry/Biology Overview

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9	**Topic**: The Future of Green **Resources**: PowerPoints, Practical Activities, Handouts **Focus**: Researching and investigating how humans currently use energy in our homes and work. Then exploring the future options of energy as we face the challenge of removing or reliance on non-sustainable energy sources. **Outcome**: Practical Assessment and End of Term Assessment **Duration**: 12 lessons	**Topic**: Out of this World **Resources**: PowerPoints, Practical Activities, Handouts **Focus**: Exploring the different astronomical features of the universe and how transform over millions of year. Key mathematical content will include looking at the magnitude of distances involved when discussing the universe. **Outcome**: Practical Assessment and End of Term Assessment **Duration**: 12 lessons	See Chemistry Overview	See Chemistry Overview	See Biology Overview	See Biology Overview
9 ELC	See Biology Overview	See Chemistry Overview	**Topic**: Energy, forces and structure of matter **Resources**: PowerPoints, Practical Activities, Handouts, Physics Book **Focus**: To understand and deepen knowledge of types of energy, energy resources, forces and how they can be affected. Developing knowledge on the structure of matter by linking to radioactivity. **Outcome**: Topic Test and practical on thermal insulation. **Duration**: 13 lessons	See Biology Overview	See Chemistry Overview	**Topic**: Electricity, magnetism and waves **Resources**: PowerPoints, Practical Activities, Handouts, Physics Book **Focus**: Developing understanding of circuits and their use in the real world, waves and properties of waves comparing both transverse and longitudinal. **Outcome**: Topic Test and practical on energy from a kettle **Duration**: 13 lessons

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10	See Chemistry Overview	**Topic**: Forces **Resources**: PowerPoints, Practical Activities, Handouts, Physics Book **Focus**: Introducing vectors of forces, and fields of force (electrostatic, magnetic, GFS) and resultant motions. Calculating the work done by forces. **Outcome**: End of Term Assessment and RA24 Force and extension, RA 25 Acceleration. **Duration**: 11 lessons (F/H/Sep)	**Topic**: Energy **Resources**: PowerPoints, Practical Activities, Handouts, Physics Book **Focus**: Exploring how energy transfers and transforms. The topic also explores how humans use the energy and how we can calculate different outcomes of energy use. **Outcome**: End of Term Assessment. **Duration**: 10 lessons (F/H/Sep)	**Topic**: Atomic Structure **Resources**: PowerPoints, Practical Activities, Handouts, Physics Book **Focus**: 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. **Outcome**: End of Term Assessment **Duration**: 10 lessons (F/H/Sep)	**Topic**: Electricity **Resources**: PowerPoints, Practical Activities, Handouts, Physics Book **Focus**: Exploring current, resistance and voltage relationships for different circuit elements. Investigating domestic power supply, wiring and safety measures. **Outcome**: Topic Test, RA 21 Resistance and RA 22 I-V Characteristics **Duration**: 8 lessons	**Topic**: Particle Model of Matter (Combined Science) **Resources**: PowerPoints, Practical Activities, Handouts, Physics Book **Focus**: 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. **Outcome**: End of Term Assessment and RA 23 Density **Duration**: 8 lessons (F/H/Sep)
11	See Biology Overview	See Chemistry Overview	**Topic**: Electromagnetism **Resources**: PowerPoints, Practical Activities, Handouts, Physics Book **Focus**: 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. **Outcome**: End of Term Assessment, **Duration**: 6 lessons (F/H/Sep)	**Topic**: Waves **Resources**: PowerPoints, Practical Activities, Handouts, Physics Book **Focus**: 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. **Outcome**: End of Term Assessment, RA 26 Waves, RA Radiation and absorption **Duration**: 5 lessons	**Topic**: Space **Resources**: PowerPoints, Practical Activities, Handouts, Physics Book **Focus**: Exploring the different astronomical features of the universe and how transform over millions of year. Key mathematical content will include looking at the magnitude of distances involved when discussing the universe. **Outcome**: End of Term Assessment **Duration**: 5 lessons	See Chemistry Overview