Physics



Studying the basics of motion, how to calculate motion and how to analyse distance/time, speed/time graphs.

Strategy planning - The ability to approach new learning experiences by actively attempting to connect it to existing knowledge or concepts and hence determine an appropriate way to think about the work.



Motions and forces How forces effect motion, the laws of motion and momentum.



Year

Conservation of energy For the final topic of Year 9, students will learn about types of energy, how energy transfers, how this can be calculated and illustrated.



Resilience The ability to overcome setbacks, remain confident and be focused, flexible and optimistic.

> **Complex and multi-step problem solving** The ability to break down a task, decide on a suitable approach, and then act



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GCSE Physics

Connection finding The ability to use connections from past

Year

experiences to seek possible generalisations.

Waves The properties of waves and how they travel.

Radioactivity Studying radiation and its uses.



Astronomy Learning about the solar system and the evidence for the origins of the universe.

Forces and motion Investigating how forces effect motion, the laws of motion and momentum.

(H-H)

Light and the electromagnetic spectrum

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In this topic, students look at waves within the electromagnetic spectrum, their properties and their uses. There is a specific focus on light and refraction.

META-THINKING

Self regulation The ability to monitor, evaluate and self-correct.

Force and their effects Students will learn about vectors and how to draw vector diagrams.



Energy - Forces doing work Comparing different contact and non-contact forces.

Electricity and circuits - The different types of electrical circuit and how we can measure the properties of electricity.



GCSE Physics





Electricity and circuits The different types of electrical circuit and how we can measure the properties of electricity. **Generalisation** The ability to see how what is happening in this instance could be extrapolated to other similar situations.

LINKING



Static electricity Investigating static electricity, its uses and dangers.

Magnetism and the motor effect The properties of magnets and how magnets can be used in to make an electric motor spin.

Precision The ability to work effectively within the rules of a domain.



HARD WORKING

The ability to train and prepare through repetition of the same processes in order to become more proficient.



Particle model How to calculate density and other properties of matter such as pressure.



induction Learning how electrical current

can be induced in a wire.

Forces and Matter Studying Fick's Law and pressure in fluids.



GCSE Exams At the end of Year 11, students are assessed by 2 exams for GCSE Physics. Each exam is 1h45m in duration and worth 50% of the overall grade.