

Physics

The Physics curriculum inspires students to build a deep understanding of the basic principles and laws that shape the universe, from subatomic particles to vast cosmic structures. This includes honing scientific abilities such as analytical thinking, designing experiments, and interpreting data, while also gaining a solid grasp of physics concepts. The overarching aim is to nurture critical thinking, spark curiosity, and inspire a lasting appreciation for how physics helps us make sense of and engage with the world around us

"Explore, Experiment, Explain"

KS3

By the end of KS3 students will be able to describe forces and their effects, energy stores and transfers, and the differences between renewable and non-renewable resources. They will understand the basics of space science, electricity, magnetism, sound, and light, as well as key ideas in particle physics and radioactivity. Through practical work, they will develop skills in measurement, calculation, and analysis.

KS4

By the end of KS4 students will be able to apply equations to analyse forces, energy transfer, and electrical circuits, and explain concepts such as momentum, pressure, and moments. They will have a secure understanding of waves, the electromagnetic spectrum, lenses, and magnetic fields, including the motor effect and transformers. Their study of space physics will extend to orbital mechanics, the life cycle of stars, and the origins of the universe.

KS5

By the end of KS5 students will be able to analyse experimental errors, apply advanced mechanics including projectile motion, circular motion, and SHM, and explain wave behaviour such as diffraction, interference, and fibre optics. They will study electricity in depth, including resistivity, potential dividers, and capacitors, alongside materials, thermal physics, and fields. Their understanding will extend to nuclear physics and astrophysics, exploring binding energy, stellar evolution, and black holes.



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