Physics

Curriculum Intent

Key Stage 4

We aim to build on the skills developed at Key Stage 3 as the complexity of practical skills, mathematical techniques and concepts become more complex.

After Christmas in Year 9, we begin with the less mathematical topics of Energy stores and Space. Energy is a topic that is fundamental to many other areas and Space tends to fascinate many students so builds their enthusiasm.

At the start of year 10, we have specialist teachers and begin with Forces. This is a topic that is built upon further into the course and also introduces the mathematical nature of Physics. The Particles topic comes next and covers some of the simpler abstract concepts. Current Electricity becomes more complex and abstract with a significant practical element, followed by Energy 2, with the maths ramped up. This trend of raising complexity continues, with Radioactivity and Electromagnetism near the end of the course.

Key Stage 5

We begin with Foundations of Physics as we have found students make better progress when actually taught this as a topic rather than developing the skills throughout the course. At the same time, they study electricity as it follows on seamlessly from GCSE and is one of the less mathematically challenging topics. Forces and Motion, and Quantum are taught near the end of Year 12 as they are more challenging topics.

This increasing in complexity continues through Year 13 with Capacitors, Radioactivity and Electromagnetism taught at the end of the course.

Curriculum Implementation

Key Stage 3

Year 9

- Energy Stores
- Space

Key Stage 4: GCSE (AQA)

Year 10

- Current Electricity
- Forces 1
- Energy 2
- Forces 2
- Mains Electricity
- Motion
- Particles

Year 11

- Force, Motion and Momentum
- Waves
- Electromagnetic Spectrum
- Space 2
- Atoms
- Electromagnetism

Key Stage 5: A Level (OCR)

Year 12

- Foundations of Physics
- Waves
- Electricity
- Forces and Motion
- Quantum Physics
- Materials
- Energy
- Astrophysics and Cosmology
- Medical Physics

Year 13

- Particles
- Circular Motion and Oscillations
- Thermal Physics
- Fields
- Electromagnetism
- Capacitors
- Radioactivity
- Cosmology