



HEADLANDS SCHOOL  
SINCE 1965

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## A Level Physics

### What will I learn?

The A-level Physics syllabus we follow is OCR A a course that was originally written in conjunction with the Institute of Physics and follows a traditional route recognisable by all University courses. Physics is one of the 9 “facilitating subjects” identified by Russell group universities as being required or useful for application onto the most different courses. Employers prize the qualities of physics graduates for their ability to solve problems and develop logical solutions not just in science, but also in finance, and management sectors. It will be someone with knowledge of physics who; solves the looming worldwide energy crises; supplies the world with clean drinking water; describes what causes gravity and mass; launches long distance space missions out of our solar system; builds a space elevator; and explains the origins of the Universe.

There are 6 modules:

#### Year one:

- Module 1 - Development of practical skills in physics: This involves practical skills assessed in a written examination and several key experiments your teachers will report on separately.
- Module 2 - Foundations of physics covering: physical quantities and units, making measurements and analysing data and the nature of quantities.
- Module 3 - Forces and motion covering: motion, forces in action, work, energy and power, materials and Newton’s laws of motion and momentum.

#### Year two

- Module 4 - Electrons, waves and photons: charge and current, energy, power and resistance, electrical circuits, waves and quantum physics.
- Module 5 - Newtonian world and astrophysics covering: thermal physics, circular motion, oscillations, gravitational field, astrophysics and cosmology
- Module 6 - Particles and medical physics covering: capacitors, electric fields, electromagnetism, nuclear and particle physics and medical imaging.

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### **How is it delivered?**

Modelling Physics: 2¼ hour written exam 100 marks, 37% of A level. (Year one content)

Exploring Physics: 2¼ hour written exam 100 marks, 37% of A level. (Year two content)

Unified Physics: 1hr 30mins written exam 70 marks, 26% of the A level. (Combines content from both years)

Practical endorsement in physics (Non Exam Assessment)

### **Is there anything else I need to know?**

Candidates must have achieved a grade 6 in Combined Science or a 5 in Biology to be accepted onto this course, as without this level of prior attainment, the student would not make the grade at A Level.

GCSE Maths Grade 6 would be an advantage as there are calculations and rearrangement of equations to perform

### **Future Opportunities?**

Degree level qualifications in Physics, Mechanical or Electrical Engineering, Forensic Science etc.