



Kimberley
School

A Level
PHYSICS

SIXTH FORM
SCIENCE



East Midlands
Education Trust

SUBJECT BOOKLET

What is Physics?

Physics is the study of matter and energy. Through understanding them and how they interact, Physics sets out to explain how the world we live in works. In a world where technology is advancing at a rapid rate, Physics lets you understand the basic ideas behind it all.

Who is it for?

Some students may wish to use the AS GCE in order to broaden their curriculum, where others will complete the two year course which will prepare them to progress into further education to follow courses in physics, engineering, or any of the scientific subjects.

Course requirements?

Grade 6 GCSE Physics (Triple Science) and grade 6 Maths, **OR** grade 6 in Combined Science with at least a grade 6 in the Physics component. In addition, students will be monitored closely for effort and quality of work throughout their year 11 studies. Students who do not demonstrate the necessary attitude and effort in their studies, in the opinion of their science teachers, will be discouraged from taking Physics A level. The final decision on acceptance onto the course will be taken by the Science Department in conjunction with Head of Sixth Form.



The course is made up of:

AS Level Physics

Module 1

Development of Practical Skills in Physics

This module covers the practical skills that students will develop throughout the course. The practical skills in this module can be assessed within written examinations

Module 2

Foundations in Physics

Includes:

- S.I. units
- Scalars and vectors

Module 3

Forces and motion

Includes:

- Motion
- Forces in action
- Work, energy and power
- Materials
- Laws of motion and momentum

Module 4

Electrons, waves and photons

Includes:

- Charge and current
- Electric circuits
- Energy, power and resistance
- Wave behaviour
- Quantum physics

How will I be assessed?

In class end of topic tests. Mock exams at the end of year 12.

A Level Physics

- Modules 1 – 4. Same as for AS Level.

Module 5

The Newtonian world and astrophysics

Includes:

- Thermal physics
- Oscillations and circular motion
- Gravitational fields
- Astrophysics and cosmology

Module 6

Particles and medical physics

Includes:

- Capacitors
- Electric fields
- Electromagnetism
- Nuclear and particle physics
- Medical physics

How will I be assessed?

Paper one: Modelling Physics

- 37% of total grade
- Content from modules 1,2,3,5
- Two sections (A/B) assessed in 2hrs 15mins
- Section A = multiple choice (15%)
- Section B = structured questions covering theory and practical skills (85%)

Paper two: Exploring Physics

- 37% of total grade
- Content modules 1,2,4,6
- Two sections (A/B) assessed in 2hrs 15mins
- Section A = multiple choice (15%)
- Section B = structured questions covering theory and practical skills (85%)

Paper three: Unified Physics

- 26% of total grade
- Covers all modules
- One assessment of 1hr 30mins
- Structured questions covering theory and practical skills

Practical endorsement for Physics

In addition to the 3 written exam papers, candidates complete a minimum of 12 practical activities throughout the two years to demonstrate practical competence. The performance is reported separately from the A-level grade as a pass/fail by the teacher. See Miss S. Cottee for further details.