



## Physics A Level (AQA Specification Code: 7408)

“Intelligence is the ability to adapt to change.”  
Stephen Hawking

### Curriculum Vision

The Science Department develops pupils who are critical thinkers, problem solvers and innovators. At the conclusion of their school career, our pupils will be able to apply their scientific knowledge to contemporary issues, making connections between scientific disciplines, and their implications for other disciplines. This will empower them to act as informed citizens and help them feel more confident in the decisions they may need to make on their own.



Physics helps us to understand the world around us, the world inside us and the world beyond us.

### What will you learn?

Throughout the course you will develop an in depth knowledge and understanding of the principles of physics, gain hands-on practical and data analysis skills and will appreciate how science works and its relevance beyond the laboratory.

Topics that you study include:

- Measurements and their errors
- Particles and radiation
- Waves
- Mechanics and materials
- Electricity
- Further mechanics and thermal physics
- Fields and their consequences
- Nuclear physics

In the second year of the A Level, the optional topic offered is:

- Astrophysics

## What the exam/ assessment looks like: How will you be assessed?

The A Level is assessed by three written papers, each lasting 2 hours.

Paper 1	+	Paper 2	+	Paper 3
<b>What's assessed</b> Sections 1–5 and 6.1 (Periodic motion)		<b>What's assessed</b> Sections 6.2 (Thermal Physics), 7 and 8  Assumed knowledge from sections 1 to 6.1		<b>What's assessed</b> Section A: Compulsory section: Practical skills and data analysis  Section B: Students enter for <b>one</b> of sections 9, 10, 11, 12 or 13
<b>Assessed</b> <ul style="list-style-type: none"><li>• written exam: 2 hours</li><li>• 85 marks</li><li>• 34% of A-level</li></ul>		<b>Assessed</b> <ul style="list-style-type: none"><li>• written exam: 2 hours</li><li>• 85 marks</li><li>• 34% of A-level</li></ul>		<b>Assessed</b> <ul style="list-style-type: none"><li>• written exam: 2 hours</li><li>• 80 marks</li><li>• 32% of A-level</li></ul>
<b>Questions</b> 60 marks of short and long answer questions and 25 multiple choice questions on content.		<b>Questions</b> 60 marks of short and long answer questions and 25 multiple choice questions on content.		<b>Questions</b> 45 marks of short and long answer questions on practical experiments and data analysis.  35 marks of short and long answer questions on optional topic.

## Entrance Requirements: What will you need to study this course?

Students studying at A Level will require 5 or more GCSEs graded 9-5 or A-C. To study Physics, you will need at least a grade 5 in English, a grade 6 in Mathematics and a grade 6 in Physics GCSE, Double Science, or equivalent, at the higher tier. Students studying A Level Physics should also study A Level Mathematics.

## How will you learn?

- Textbooks
- Physics A-Level specification
- Practical's (including 12 Required Practical's)
- Physics websites
- physics lecturers/ webinars
- Independent learning
- Poster and oral presentations

## Career links: Where will it take you?

Physics A Level leads to a wide range of careers, for example in journalism, law, banking, finance, medicine, engineering, computer science or astronomy. It forms the basis of many sciences and can lead to Higher Education courses in architecture, bio-physics, chemistry, geology, medicine, optics and others. It is also valued in business, economics and law.

## Recommended textbooks

1. AQA Physics: A Level Year 1 and AS by Jim Breithaupt (2015)
2. AQA Physics: A Level Year 2 by Jim Breithaupt (2015)

OR

3. A-Level Physics for AQA: Year 1 & 2 Student Book with Online Edition (CGP A-Level Physics) by Coordination Group Publications Ltd (CGP) (2015)

## What homework looks like

Homework is based on past paper exam questions and are generated either using Kerboodle or Exampro.

**Who to talk to?**

Dr Barard or Mr Karim