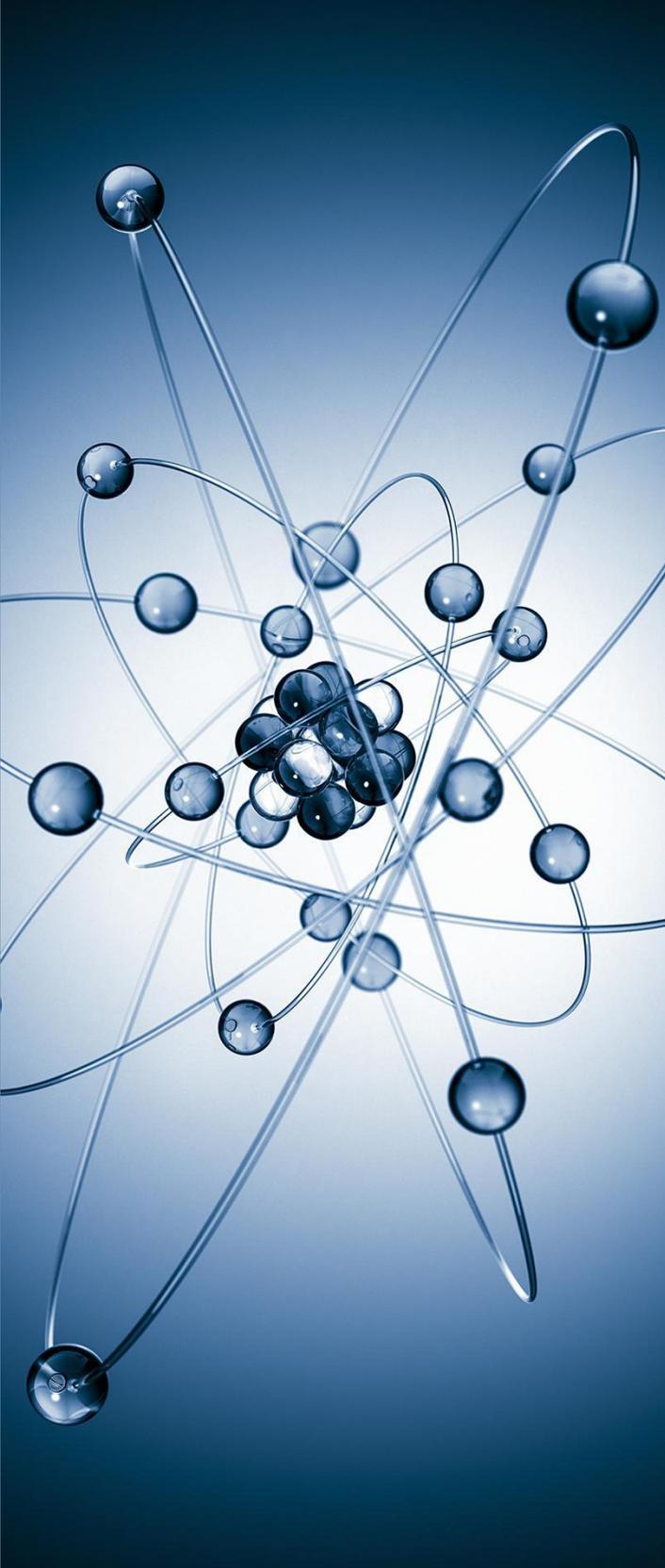


# Physics



## What will I study?

"Physics is really nothing more than a search for ultimate simplicity, but so far all we have is a kind of elegant messiness."

- Bill Bryson, A Short History of Nearly Everything

A-level Physics takes concepts and ideas that you have seen at GCSE and explores them in greater depth, answering questions that were only hinted at (or glossed-over) and revealing the messiness. Why do rubber bands get hot when you stretch them, but springs don't? How does the resistance of thermistor decrease when you heat it?

From there we explore new realms, and seek answers to questions ranging from the very smallest – what happens to an electron when you fire it at a sheet of graphite? – to the very largest – where did our universe come from and what will happen to our Sun in the future? We look at questions that no-one can answer: how is it possible for an electron to travel two paths simultaneously? What will happen to our universe in the future?

Physics takes you on a journey that starts by asking what reality is made of and ends, after careful observation, practical work, and calculation by asking what reality actually is.

## Assessment

We study OCR Physics A. At the end of Year 13, there are three papers:

- Modelling Physics is a 2 hour 15 minute paper, worth 100 marks, and is a mix of multiple-choice, short and long answer questions. It covers topics related to forces, motion, fields and astrophysics.
- Exploring Physics is a 2 hour 15 minute paper, worth 100 marks, and is a mix of multiple-choice, short and long answer questions. It covers topics related to electricity, circuits, quantum physics, particles and medical physics.
- Unifying physics is a 1 hour 30 minute paper, worth 70 marks, and is a mix of short and long answer questions. Question cover all the topics but are mostly focussed on assessing practical skills.

In addition to the three written papers, you will complete a number of practical activities that make up the practical endorsement – a pass/fail assessment of practical skills that is separate to your exam grade.

## Career Opportunities

The skills you develop in studying physics – practical and observational skills, logical thinking and mathematical modelling are valued by employers in careers as diverse as banking and medicine. Studying physics doesn't close any doors in your future, and opens a vast array of them.

Recent Physics students have gone on to:

- University to study biomedical sciences, aeronautical engineering, mathematics and physics;
- Apprenticeships in computer science;
- Careers in the sciences, engineering, medicine and teaching.

## Entry Requirements

Five Level 4 GCSEs are required for entry into 6<sup>th</sup> Form.

Level 5 pass is required in your chosen, or related, subject.

Some subjects require Level 6; decisions will be based on individual students.

## Hours of study (fortnightly)

9 hours of lesson time  
6 hours independent learning

