



SCIENCE GCSE



Examination Board:

AQA

Assessment:

100% Examination

What Will You Learn?

In your Key Stage 4 Science course, you will build on the knowledge and skills you have developed in Key Stage 3. The material you study in Key Stage 4 allows you to explore how Science is important in your everyday life.

Key scientific ideas from Biology, Chemistry and Physics run through the course and lead you to develop a deep understanding of Science, and an ability to apply and communicate this effectively. During your lessons, you will use your knowledge and understanding to learn about and explain every day and technological applications of Science. You will have opportunities to evaluate the personal, social, economic and environmental implications of scientific developments in the real world, to think critically about the many Science reports we see in the media, and make decisions based on the evaluation of evidence and arguments. The GCSE courses encourage you to develop your knowledge and understanding through practical work and you will also practise talking, reading and writing about Science, as well as representing scientific concepts both mathematically and visually through scientific modelling.

Science topics studied at GCSE include:

- **Biology:** cell biology, organisation, infection and response, bioenergetics, homeostasis and response, inheritance, variation and evolution and ecology
- **Chemistry:** atomic structure and the periodic table, bonding, structure and the properties of matter, quantitative chemistry, chemical changes, energy changes, the rate and extent of chemical change, organic chemistry, chemical analysis, chemistry of the atmosphere
- **Physics:** energy, electricity, particle model of matter, atomic structure, forces, waves, magnetism and electromagnetism



$$E = mc^2$$

Energy (pointing to E), mass (pointing to m), squared (pointing to c²), equals (pointing to =), speed of light (constant) (pointing to c).

The Course You Will Follow

There are currently two routes towards GCSE Science qualifications:

- Combined Science GCSE leading to 2 GCSEs covering Biology, Chemistry and Physics equally

Or

- Triple Science GCSE leading to 3 GCSEs – in Biology, Chemistry and Physics -
Students that will be picked for this course will be carefully chosen by the teachers based on attainment in Year 10 and excellent attitude to learning

The assessment objectives for GCSE Sciences indicate how the exams will measure students' achievements in Science:

AO1: **Demonstrate knowledge and understanding** of scientific ideas, scientific techniques and procedures. (40% of marks)

AO2: **Apply knowledge and understanding** of scientific ideas, scientific enquiry, techniques and procedures. (40% of marks)

AO3: **Analyse information and ideas** to interpret and evaluate, make judgments and draw conclusions and develop and improve experimental procedures. (20% of marks)

Success in Science examinations requires students to be able to communicate their understanding effectively using scientific terminology accurately. The new GCSE courses also have an increased Maths content, with students required to apply and use scientific equations and analyse numerical data. This means that strong English and Maths skills will benefit students' progress in Science.

What Happens When You Finish? (Career Pathways)

Both GCSE Science routes prepare students for a range of post-16 Science courses, including Science A-Levels in Biology, Chemistry or Physics. The broad and balanced GCSE content provides the knowledge and skills required by real scientists in their work.

Studying Science beyond GCSE gives you access to a wide variety of career opportunities, both in science industries and in scientific research in areas including Medicine, Dentistry, Physiotherapy, Chemical Engineering, Forensics, Environmental Science, Food and Textiles Sciences, Genetics, Pharmacy, Biochemistry, Biotechnology, Engineering, Biomedicine, Astronomy, Electronics, Environmental Health, Meteorology, Nursing and Education.

Science graduates are also extremely attractive to employers in non-science fields because of their high levels of analytical skill, excellent problem solving and decision-making.

If you do not intend studying Science beyond GCSE, you will still find that college entry requirements for most A-Level courses include a good qualification in a Combined Science. Other non-science college and training courses usually expect you to have a Science qualification along with English and Maths.

So, whatever your career plans – or if you are still undecided where your future lies – your Key Stage 4 Science qualifications are important in securing your next steps after GCSE.