

KS4

Science is a set of ideas about the material world. Included in the GCSE's courses are all the parts of what good science is at GCSE level: whether it be investigating, observing, experimenting or testing out ideas and thinking about them.

The way scientific ideas flow through the specifications and will support students in building a deep understanding of science. This will involve talking about, reading and writing about science plus the actual doing, as well as representing science in its many forms both mathematically and visually through models.

These qualifications encourage the development of knowledge and understanding in science through opportunities for working scientifically. Working scientifically is the sum of all the activities that scientists do.

Y11 students follow AQA GCSE Biology

GCSE Biology is a linear specification, with tiered exams to facilitate all pupils in realising their potential. There are 2 equally weighted exams.

Assessment

Paper 1 covers: Cell biology; Organisation; Infection and response; and Bioenergetics.

Paper 2 covers: Homeostasis and response; Inheritance, variation and evolution; and Ecology.

Both papers are 1 hour 45 minutes and they comprise of multiple choice, structured, closed short answer and open responses.

In addition to the final exams, there are 10 required practicals to complete during the course, where pupils will apply and extend their theoretical understanding and knowledge.

Y10 students follow AQA GCSE Combined Science: Trilogy

GCSE Combined Science is a linear specification, with tiered exams to facilitate all pupils in realising their potential. There are 6 equally weighted exams.

Assessment

There are six papers: two biology, two chemistry and two physics. Each of the papers will assess knowledge and understanding from distinct topic areas

Biology

Paper 1: Topics 1–4: Cell Biology; Organisation; Infection and response; and Bioenergetics.

Paper 2: Topics 5–7: Homeostasis and response; Inheritance, variation and evolution; and Ecology.

Chemistry

Paper 1: Topics 8–12: Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry; Chemical changes; and Energy changes.

Paper 2: Topics 13–17: The rate and extent of chemical change; Organic chemistry; Chemical analysis; Chemistry of the atmosphere; and Using resources.

Physics

Paper1: Topics 18–21: Energy; Electricity; Particle model of matter; and Atomic structure.

Paper 2: Topics 22–24: Forces; Waves; and Magnetism and electromagnetism.

All six papers are 1 hour 15 minutes and they comprise of multiple choice, structured, closed short answer and open responses.

In addition to the final exams, there are 21 required practical's to complete during the course, where pupils will apply and extend their theoretical understanding and knowledge.

KS3

Year7-9 study AQA Entry Level Science. Entry Level Certificates are nationally recognised qualifications which give students the opportunity to achieve a certificated award. The ELC Science specification is co-teachable with GCSE Combined Sciences so it prepares students for them to return to mainstream. The assessment is on demand so students can complete assignments when they are ready, helping to keep them motivated.

The ELC provides flexibility, but on a clear progression pathway. It equips students with skills and knowledge transferable to both educational and career settings, and provides a worthwhile course for students of various ages and from diverse backgrounds in terms of general education and lifelong learning.

Aims and learning outcomes

The course should encourage students to:

- develop their interest in, and enthusiasm for, science,
- develop a critical approach to scientific evidence and methods,
- acquire and apply social skills, knowledge and understanding of working scientifically and its essential role,
- acquire scientific skills, knowledge and understanding necessary for progression to further learning,
- apply literacy, numeracy and information technology skills.

Subject content areas

3.1 Component 1 – Biology: The human body

3.2 Component 2 – Biology: Environment, evolution and inheritance

3.3 Component 3 – Chemistry: Elements, mixtures and compounds

3.4 Component 4 – Chemistry: Chemistry in our world

3.5 Component 5 – Physics: Energy, forces and the structure of matter

3.6 Component 6 – Physics: Electricity, magnetism and waves

Assessment

AO1: Show knowledge and understanding of science, and how it works, and apply it where appropriate. Students should be able to:

- recall scientific facts,
- apply scientific ideas.

AO2: Demonstrate the ability to design an investigation, take measurements, present data and identify patterns and relationships. Students should be able to:

- plan a simple investigation, identifying the techniques or equipment needed and the method to be followed,
- make a simple prediction about the outcome of the investigation,
- use equipment and materials safely to take simple measurements or observations that are meaningful and valid,
- record the results in an appropriate way,
- display the data using an appropriate method,
- state what has been found out during the investigation (drawing a conclusion) and describe simple relationships in the data,
- simply evaluate the investigation for its success in justifying the initial prediction.

Assessment is through completion of the Externally-set assignments (ESAs) and Teacher-devised assignments (TDAs). These can be taken any time during the academic year.

Single Award

Students should submit evidence for **three** components, with at least one chosen from Biology (components 1–2), Chemistry (components 3–4) and Physics (components 5–6). Students should submit three Externally-set assignments (ESAs) and three Teacher-devised assignments (TDAs). The ESAs and TDAs do not have to be from the same components.

Double Award

Students should submit evidence for all **six** components. Students should submit six Externally-set assignments (one each for components 1–6) and six Teacher-devised assignments (one each for components 1–6).