

Course Description

Students can opt to study three separate sciences, which gives three GCSEs:

- GCSE Biology
- GCSE Chemistry
- GCSE Physics

Students are awarded individual grades for each discipline.

Separate science students study all of the content from the Biology, Chemistry and Physics disciplines of Combined Science, but with added extra material in each discipline.

Topics Covered**Biology**

- Topic 1 – Key concepts in biology
- Topic 2 – Cells and control
- Topic 3 – Genetics
- Topic 4 – Natural selection and genetic modification
- Topic 5 – Health, disease and the development of medicines
- Topic 6 – Plant structures and their functions
- Topic 7 – Animal coordination, control and homeostasis
- Topic 8 – Exchange and transport in animals
- Topic 9 – Ecosystems and material cycles

Chemistry

- Topic 1 – Key concepts in chemistry
- Topic 2 – States of matter and mixtures
- Topic 3 – Chemical changes
- Topic 4 – Extracting metals and equilibria
- Topic 5 – Separate chemistry 1
- Topic 6 – Groups in the periodic table
- Topic 7 – Rates of reaction and energy changes
- Topic 8 – Fuels and Earth science
- Topic 9 – Separate chemistry 2

Physics

- Topic 1 – Key concepts of physics
- Topic 2 – Motion and forces
- Topic 3 – Conservation of energy
- Topic 4 – Waves
- Topic 5 – Light and the electromagnetic spectrum
- Topic 6 – Radioactivity
- Topic 7 – Astronomy
- Topic 8 – Energy - Forces doing work
- Topic 9 – Forces and their effects
- Topic 10 – Electricity and circuits
- Topic 11 – Static electricity
- Topic 12 – Magnetism and the motor effect
- Topic 13 – Electromagnetic induction
- Topic 14 – Particle model
- Topic 15 – Forces and matter

Exam Details

Separate science students will sit six exams at the end of the course in Year 11. These six exams, at 1hr 45 minutes, are slightly longer than the Combined Science exams. Each exam will cover half of the content for that discipline.

There will be Foundation tier and Higher tier papers. Foundation tier is for students who are aiming for grades 1–5, and Higher tier is for students who are aiming for grades 4–9. In the separate science pathway, students can choose different tiers for different disciplines. So, for example, a student may choose to sit Physics and Chemistry at Higher tier and Biology at Foundation tier.

Students will receive a grade between 1 and 9 for each of Biology, Chemistry and Physics GCSEs.

Each of the six exams will consist of the following:

- The assessment is out of 100 marks.
- The assessment consists of ten questions.
- The paper will include multiple-choice, short answer questions, calculations and extended open-response questions.
- 27 marks of the paper will be overlap questions that appear in both the foundation and higher tier papers.

Coursework / Controlled Assessment Information

There will no longer be a coursework unit in the GCSEs. Practical work is still a very important part of the science GCSEs, not only to consolidate learning, but also to develop skills in planning, analysing and evaluating. These practical skills will be assessed as part of the written examinations at the end of the course.

Progression Route/s

Students can progress from this qualification to:

- GCSEs, for example in Biology, Chemistry and Physics. (Although please note that this can also be achieved through attaining grade 6+ in combined Science)
- Level 3 vocational qualifications in science, for example BTEC Level 3 in Applied Science
- Employment, for example in a science-based industry where an Apprenticeship may be available.

The content and skills for these qualifications are set by the DfE to be suitable to allow these progression routes.