

Science (Combined Science)

This is compulsory for all students (although students may follow the Option for the Separate Sciences).

Examination Board	Code
AQA	Combined Science 8464

Outline of the Course

- Students will follow a broad, coherent course of study that adds to their knowledge and understanding of the living, material and physical worlds.
- Students will develop a range of transferable skills by undertaking practical activities to help prepare them for the examination questions based on the 21 Required practical investigations (7 in Biology, 6 in Chemistry, 8 in Physics). They will learn to make observations, analyse data appropriately and explain conclusions in terms of scientific concepts.

Topics studied in Biology

Topics studied in Year 9 (in order)

- B1 Cell Structure and Cell Division- Unit 1; Paper 1
- B2 Transport in Cells- Unit 1; Paper 1
- B3 Organisation in Animals and Plants - Unit 1- Paper 1

Topics studied in Year 10 (in order)

- B4 Enzymes- Unit 2; Paper 1
- B5 Health and Non-communicable Disease Unit 2; Paper 1
- B6 Infection and Response-Unit 3; Paper 1
- B7 Bioenergetics- Unit 4; Paper 1
- B11 Communities and Ecosystems- Unit 7; Paper 2
- B12 Biodiversity and Human Impacts on Ecosystems - Unit 7; Paper 2

Topics studied in Year 11 (in order)

- B8 Homeostasis and Response- Unit 5; Paper 2
- B9 Reproduction and Inheritance- Unit 6; Paper 2
- B10 Variation and Evolution- Unit 6; Paper 2

Topics studied in Chemistry

Topic studied in Year 9

- Metals, Unit 4, Paper 1
- Separating mixtures, Unit 1, Paper 1
- Atomic structure, Unit 1, Paper 1

Topics studied in Year 10

- Chemical structures and their properties, Unit 2, Paper 1
- The Periodic table, Unit 1, Paper 1
- Chemical reactions and how to analyse substances, Unit 8, Paper 2
- Quantitative chemistry, Unit 3, Paper 1 (&2)
- Organic chemistry, Unit 7, Paper 2
- Metal extraction and electrolysis, Unit 4, Paper 1
- Energy changes, Unit 5, Paper 1

Topics studied in Year 11

- Rates of reaction, Unit 6, Paper 2
- Chemistry of the atmosphere including human influences on this and sustainable development, Unit 9/10 Paper 2
- Chemical changes, acids and salts, Unit 4, Paper 1

Topics studied in Physics

Topics studied in Year 9 (in order)

1. Energy- Paper 1
2. Energy Resources - Paper 1
3. Molecules and Matter - Paper 1

Topics studied in Year 10 (in order)

1. Molecules and Matter - Paper 1
2. Electric Circuits - Paper 1
3. Electricity in the home - Paper 1
4. Introduction to Electromagnetism - Paper 2
5. Radioactivity - Paper 1
6. Forces in Balance - Paper 2
7. Motion - Paper 2

Topics studied in Year 11 (in order)

1. Forces and Motion - Paper 2
2. Further Electromagnetism - Paper 2
3. Wave Properties - Paper 2
4. Electromagnetic Spectrum - Paper 2

How Will I Be Assessed?

Students will sit 6 one hour and 15 minute written examinations: two examinations per Science subject. There will be a mixture of multiple choice, structured, closed short answer and open responses that will require extended writing. At least 15% of the marks will be allocated for the recall of facts, 15% of marks will be related to the required practical activities and 60% of the marks will be for the application of knowledge and understanding. The remaining marks will be allocated for applying Mathematical principles.

Mark Breakdown

Each of the 6 written papers is worth 16.7% of the final Combined Science GCSE result.

Website Links

<https://www.aqa.org.uk/subjects/science/gcse/science-8464/specification>

Key Dates

Exams: May/June Year 11

Further Information

Subject Teachers: – please see the separate Biology, Chemistry and Physics pages of this booklet.

Students tend to follow the Combined Science course if they do not intend to pursue Science subjects at A Level **or** they want to take a range of other option subjects such as Music, Art, MFL and Humanities.

Students can still progress from Combined Science to A Level Science courses.

SUBJECT LEADER CONTACT: j.howe@stretfordgrammar.com

What can I do after I have completed the course?

A range of transferable skills are developed during the course such as analytical / data analysis skills, evaluation skills, communication skills and practical skills which will assist students in a range of careers or A Level choices. This course is suitable to progress to A Level Sciences

