



Science (Combined Science)

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

Examination Board: AQA

Examination Code: Combined Science 8464

Outline of the Course

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
B8 Homeostasis and Response- Unit 5; Paper 2

Topics studied in Year 11 (in order)

B9 Reproduction and Inheritance- Unit 6; Paper 2
B10 Variation and Evolution- Unit 6; Paper 2
B11 Communities and Ecosystems- Unit 7; Paper 2
B12 Biodiversity and Human Impacts on Ecosystems - Unit 7; Paper 2

Chemistry:

Topic studied in Year 9 (in order)

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

Topics studies in Year 10 (in order)

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 (in order)

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

Physics:**Topics studied in Year 9 (in order)**

Energy - Paper 1

Energy Resources - Paper 1

Molecules and Matter - Paper 1

Topics studied in Year 10 (in order)

Molecules and Matter - Paper 1

Electric Circuits - Paper 1

Electricity in the home - Paper 1

Introduction to Electromagnetism - Paper 2

Radioactivity - Paper 1

Forces in Balance - Paper 2

Motion - Paper 2

Topics studied in Year 11 (in order)

Forces and Motion - Paper 2

Further Electromagnetism - Paper 2

Wave Properties - Paper 2

Electromagnetic Spectrum - Paper 2

What will you learn?

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.

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 Required practical activities will be covered throughout the two year course.
Further Information	Dr J. Howe – Director of Science j.howe@stretfordgrammar.com Subject Teachers: – please see the separate Biology, Chemistry and Physics sections. 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.
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