

# SCIENCE

## Course Description:

Science is a set of ideas about the material world. Students are introduced to various key scientific concepts in Biology, Chemistry and Physics following the AQA exam course. The way scientific ideas flow through the course will support students in building a deep understanding of Science. Lessons involve talking about, reading and writing about Science plus the actual doing of experimental work, as well as representing Science in its many forms both mathematically and visually through models.

Throughout the course students will learn to work scientifically, develop their mathematical skills and their use of apparatus and experimental techniques. These skills will be assessed throughout the course.

## Separate Science (3 GCSEs)

**Examination Board: AQA GCSE Biology (8461), Chemistry (8462) and Physics (8463) [GCSE Biology, Chemistry & Physics](#)**

### Assessment:

This qualification is linear. Linear means that students will sit all their exams at the end of the course in the summer of Year 11.

There are six papers: two Biology, two Chemistry and two Physics. Each of the papers will assess knowledge and understanding from distinct topic areas. Students can take higher tier or foundation tier papers.

Each written exam is 1 hour 45 minutes long and is worth 50% of each of the GCSE courses, e.g. each Biology paper is worth 50% of the Biology GCSE.

The questions are multiple choice, structured, closed short answer, and open response.

There is no coursework for this qualification. The students will take part in some additional separate Science days over the course of the 3 year GCSE. These days are opportunities to complete required practical tasks and cover some of the extra content required for the separate qualification.

Paper	What's assessed?
<b>Biology Paper 1</b>	Biology topics 1–4: Cell Biology; Organisation; Infection and response; and Bioenergetics.
<b>Biology Paper 2</b>	Biology topics 5–7: Homeostasis and response; Inheritance, variation and evolution and Ecology.

<b>Chemistry Paper 1</b>	Chemistry topics 1–5: Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry; Chemical changes and Energy changes.
<b>Chemistry Paper 2</b>	Chemistry topics 6–10: The rate and extent of chemical change; Organic chemistry; Chemical analysis; Chemistry of the atmosphere and Using Resources.
<b>Physics Paper 1</b>	Topics 1-4: Energy, Electricity, Particle model of matter, Atomic structure
<b>Physics Paper 2</b>	Topics 5-8: Forces, Waves, Magnetism and electromagnetism; Space Physics

## **Combined Science (2 GCSEs)**

**Examination Board: AQA GCSE Combined Science Trilogy (8464)**

### **[GCSE Combined Science Trilogy](#)**

#### **Assessment:**

This qualification is linear. Linear means that students will sit all their exams at the end of the course in the summer of Year 11.

There are six papers: two Biology, two Chemistry and two Physics. Each of the papers will assess knowledge and understanding from distinct topic areas. Students can take higher tier or foundation tier papers.

Each written exam is 1 hour 15 minutes long and is worth 16.7% of the GCSE.

The questions are multiple choice, structured, closed short answer, and open response.

There is no coursework for this qualification.

<b>Paper</b>	<b>What's assessed?</b>
<b>Biology Paper 1</b>	Biology topics 1–4: Cell Biology; Organisation; Infection and response; and Bioenergetics.
<b>Biology Paper 2</b>	Biology topics 5–7: Homeostasis and response; Inheritance, variation and evolution and Ecology.
<b>Chemistry Paper 1</b>	Chemistry topics 8–12: Atomic structure and the periodic table; Bonding, structure, and the properties of matter; Quantitative chemistry; Chemical changes and Energy changes.
<b>Chemistry Paper 2</b>	Chemistry topics 13–17: The rate and extent of chemical change; Organic chemistry; Chemical analysis; Chemistry of the atmosphere and using resources.

<b>Physics Paper 1</b>	Physics topics 18 – 21: Energy, Electricity, Particle model of matter, Atomic structure
<b>Physics Paper 2</b>	Physics topics 22 – 24: Forces, Waves, Magnetism and electromagnetism

## **Why Study Science?**

Science is compulsory at GCSE level but St Bart's offers 2 courses: Separate or Combined Science. Throughout Year 9 the students' work is closely monitored and recorded. In the Summer term of Year 9 the Science staff work collaboratively to identify which students they feel would be best suited to doing the Separate Science course. This decision is based on the quality of students' work as well as their attitude to learning and the students' preference to some degree. During Year 9, students will complete a variety of tests, as well as an end of year exam; this information will help in the decision making process.

Letters will be sent to parents in July informing them of the course which will be followed by their child in Years 10 and 11. Students offered the Separate Science route will have the option to decline if they feel that they would rather study for Combined Science.

There is completely equal access to A Levels in Science from either the Combined Science or Separate Science routes at GCSE. The only criteria for acceptance onto these Key Stage 5 courses will be the grades achieved at GCSE.

## **Further information on Science can be obtained from:**

**Dr H Alonzi (Head of Science)**

**Mrs C Woodgate (Biology)**

**Ms H Thomson (Physics)**

**Miss C Savage (Chemistry and Combined Science)**