

BIOLOGY

Biology is a rapidly expanding science. It forms the basis of new and exciting fields of study, such as Biotechnology, Genetics and Ecology. Studying A Level Biology will enable a student to follow one of these courses at university. Students wishing to study Medicine, Dentistry or Veterinary Science may also take Biology as one of their A Level choices.

Throughout the Sixth Form students are taught by two teachers and theory work is backed up with relevant practical activities in all topics. Students learn to use more sophisticated equipment and techniques and continue to develop their understanding of effective practical design, precise and accurate data collection and thorough analysis and evaluation of techniques and evidence. Practical work has recently included the extraction of the students own DNA which can then be preserved as a necklace, the genetic modification of bacteria to incorporate glowing jelly fish genes and the technique of Genetic Fingerprinting using Gel Electrophoresis for the separation of DNA fragments. A newly purchased thermocycler is also allowing us to amplify small samples of DNA using the Polymerase Chain Reaction, an important technique used both in genetic engineering, medicine and forensic science.

Assessment - AQA specification

A Level Core Content

1. Biological molecules
2. Cells
3. Organisms exchange substances with their environment
4. Genetic information, variation and relationships between organisms
5. Energy transfers in and between organisms
6. Organisms respond to changes in their internal and external environments

Exam Board: AQA

Assessment: 100% Written Examination
(Divided into 3 papers)

7. Genetics, populations, evolution and ecosystems
8. The control of gene expression

Written Assessment

The course is assessed in 3 papers which include theory and relevant practical work.

Paper 1: Topics 1 – 4

Paper 2: Topics 5 – 8

Paper 3: Topics 1 – 8 including an essay

Practical Assessment

Practical work is assessed as part of the written exams at A Level and practical lessons run alongside theory lessons throughout the course. They include a range of required practicals which are designed to develop students' practical ability and understanding. Students are assessed in a number of areas including working safely, recording data and developing investigative techniques.

Subject Combinations

Biology is a natural Science, usually studied with other natural sciences, such as Chemistry and Physics. However, there are no hard and fast rules about the combination of subjects. It can be taken with Geography to form an environmental package, or indeed with any other subject that fits the blocking. In other words it can be taken as a subject in its own right.



Hannah Pattison, Head of Biology