

A Level Biology



Why this subject?

Biologists are the scientists who study the natural world and all the living things in it. They use this knowledge to try to stop the spread of disease, make the most of the Earth's natural resources, monitor the long-term and wide-ranging effects of pollution, improve public health, and actively manage and conserve ecosystems on the brink of massive change or loss.

As a Biology student at Churchdown School you will study an exceptionally broad range of topics, which will prepare you well should you choose to continue to higher education. You will develop science-specific skills, such as using scientific apparatus, and planning and evaluating practical methods, which will be invaluable if you choose to continue your studies in this field. However, you will also develop many transferable skills, such as communication of ideas, presenting and analysing data, working in a team and considering the ethical, economic and moral implications of the concepts you cover.

Course Outline

Year 12

Module 1: Practical Skills: Planning; Implementing; Analysis; Evaluation.

Module 2: Foundations in Biology: Cell Structure; Biological Molecules; Nucleotides and nucleic acids; Enzymes; Biological membranes; Cell division, Cell diversity and Cellular organisation.

Module 3: Exchange and Transport: Exchange surfaces; Transport in animals; Transport in plants.

Module 4: Biodiversity, Evolution and Disease: Communicable diseases, Disease prevention and the immune system; Biodiversity; Classification and Evolution.

Year 13

Module 1: Practical Skills: Planning; Implementing; Analysis; Evaluation.

Module 5: Communication, Homeostasis and Energy: Communication and homeostasis; Excretion as an example of homeostatic control; Neuronal communication; Hormonal communication; Plant and Animal responses; Photosynthesis; Respiration.

Module 6: Genetics, Evolution and Ecosystems: Cellular control; Patterns of inheritance; Manipulating genomes; Cloning and biotechnology; Ecosystems; Populations and sustainability.



Key Information

Exam Board	OCR Biology A
Qualification Type	A Level
Entry Requirements	A Level Pathway. Level 7 in Science
Head of Biology	Mr Polgrean

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Assessment Outline

Assessment is comprised of three terminal examinations sat in June of Year 13.

Practical Endorsement – This is a teacher assessed component where students complete a minimum of 12 practical activities that cover a range of skills and are applicable in different modules. These are recorded in the practical booklet. This is Module 1 and the content is assessed in all three papers.

Paper 1: Biological processes - duration 2h 15min (37% weighting)

This paper assesses content from modules 1, 2, 3 and 5

Paper 2: Biological diversity - duration 2h 15min (37% weighting)

This paper assesses content from modules 1, 2, 4 and 6

Paper 1 and 2 are comprised of the following sections:

- Section A: Multiple-choice questions (15 marks)
- Section B: Structured and extended response questions, covering theory and practical skills (85 marks)

Paper 3: Unified Biology - duration 1h 30min (26% weighting)

This paper assesses from modules 1 - 6.

- Structured and extended response questions, covering theory and practical skills (70 marks)



Careers and next steps

Biology is a key subject for lots of STEAM careers, particularly in healthcare (including medicine, nursing, dentistry, physiotherapy), jobs involving plants or animals, forensic science, psychology, botany, environmental science, zoology, geology, oceanography, pharmaceuticals, energy, teaching, science writing, genetics and research. However, the transferable skills you will develop as part of the Biology course will also prepare you for careers outside of the STEAM environment. Whatever your future career aspirations, studying Biology will develop your transferable skills and is highly-regarded by universities and employers for its emphasis on methodological rigour, literacy and numeracy.

Biology students leaving in last two years have gone on to study a wide range of subjects at university, including Biomedical Science, Paramedic Science, Psychology, Environmental Science; Forensic Science; Midwifery and Zoology. This year we have supported applications that have also included Veterinary Science; Biochemistry; Pharmacology; Civil Engineering and Robotics.

