Biology

Specification

The OCR A Level Biology is divided into separate units that cover the key principles of Biology. During a pupil's first year the course ensures breadth and depth in Biology, the concepts are consolidated and built upon by the addition of further topics within the second year. Each class is taught by two teachers and the content is split between them.

Further information about the course can be found at:
https://www.ocr.org.uk/qualifications/as-and-a-level/biology-a-h020-h420-from-2015/

L6 A Level Biology (Year 1)
Module 1: Development of practical skills
Module 2: Foundations of Biology
Module 3: Exchange and transport
Module 4: Biodiversity, evolution and disease

U6 A Level Biology (Year 2)
Module 1: Development of practical skills
Module 5: Communication, homeostasis and energy
Module 6: Genetics, evolution and ecosystems

Assessment Model

The A Level is assessed by three formal examination papers, sat at the end of the two-year qualification

Paper 1 – Biological Processes	2 hours 15 minutes	Weighting – 37% of A level
Paper 2 – Biological Diversity	2 hours 15 minutes	Weighting – 37% of A level
Paper 3 – Unified Biology	1 hour 30 minutes	Weighting – 26% of A level

L6 Biology

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, prevention and immune system Biodiversity Classification and evolution

U6 Biology

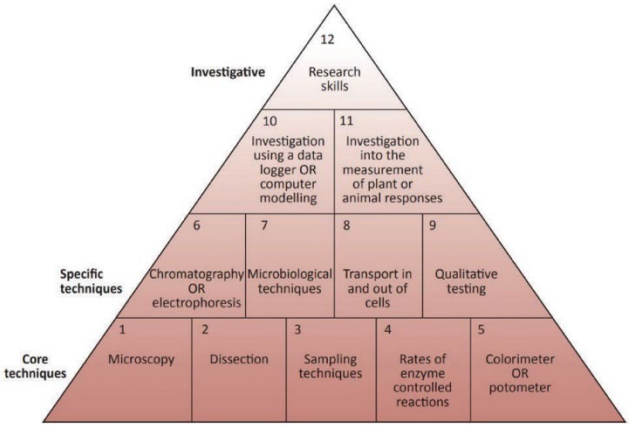
Module 5 – Communication, homeostasis, energy	**Module 6 – Genetics, evolution and ecosystems**
Communication and homeostasis Excretion as an example of homeostatic control Neuronal communication Hormonal communication Plant and animal responses Photosynthesis Respiration	Cellular control Patterns of inheritance Manipulating genomes Cloning and biotechnology Ecosystems Populations and sustainability

Assessment of Learning

Regular assessment points throughout the year check understanding, guide learning and enable written feedback. School examinations take place periodically throughout the course to check progress towards the final grade.

Practical Assessment

Practical work throughout the two-year course is recorded in a lab book. This book remains in the lab and is used as evidence of fulfilment of the practical endorsement. There are a minimum of 12 practical tasks which will count towards the endorsement. In reality pupils will complete more practical tasks than required as a minimum during the taught course. The assessment of practical skills in the lab does not directly contribute to the final A Level grade.



Assessment of Mathematical Skills

Within A Level Biology, 10% of the marks available within written examinations will be for assessment of mathematical skills in the context of biology. Use and interpretation of statistical tests form a core part of this requirement.

Additional Reading

All pupils are encouraged to read from the textbook and beyond the specification. There are a number of good resources available in the library, including a good selection of Science and Medical journals. Many of these are also available to our pupils online via subscription, as is the entire series of books entitled 'A Very Short Introduction to ...'

Additional Opportunities

We are fortunate to have the Norwich Research Park in close proximity and pupils may wish to independently explore the potential for visits or work experience opportunities with organisations based there.

University entrance examination preparation takes the form of bespoke sessions to complete and discuss past papers and develop pupils' skills. All pupils are invited to enter to take part in the relevant Royal Society of Biology Olympiad Competitions and in the Cambridge Biology Challenge.

Pupils are encouraged to join the school's academic extension groups both in the Biology department and as part of the wider co-curricular programme. These groups enable pupils to critically engage with the science that underpins these key aspects of biology via a programme of presentations and discussion. Other co-curricular opportunities are also available; for example a group of L6th pupils spent a day in 2022 working in the labs of the Earlham Institute in Norwich and all L6th Biology pupils took part in a one-day Neurobiology workshop in school led by Dr Graham Sutton from University of Nottingham School of Medicine. In 2024 pupils participated in a day-long protein structure workshop in school led by Dr Marcus Edwards from the department of Biochemistry at the University of Essex.

Where can the course take you?

Biology can open up a range of careers including medicine, veterinary science, pharmacy, physiotherapy, biomedical engineering, microbiology, marine biology, conservation, environmental management and zoology. Transferrable skills acquired such as problem solving, are useful in other areas such as law. Biology can also complement other subjects such as sports science and psychology.