

# A Level Biology

## What is Biology?

Biology is the study of living organisms, interactions between them and the environment.

## Why study Biology?

Biology explains about us! From the smallest parts of you, how you work to how the environment and organisms around us work.

## What makes a successful Biology student?

A successful Biology student is hard-working, good at learning large amounts of information, has good practical skills, is interested in how living things work, reads around a topic and relates concepts in a number of contexts.

## To study this course, what qualifications will I need and in which subjects?

Students considering Biology must have at least grades 6-6 in GCSE Combined Science or grade 6 in Biology and a grade 5 in GCSE Maths (preferably from the Higher Tier).

## What is the structure of the course?

Year 12 Units	Year 13 Units
<b>Unit 1 - Biological molecules</b> <b>Term: Year 12 Autumn</b> All life on Earth shares a common chemistry. This unit explores key biological molecules including proteins, lipids, carbohydrates, DNA, bonding and water.	<b>Unit 5 – Energy Transfers</b> <b>Term: Year 13 Autumn</b> This unit examines the biochemical pathways of photosynthesis and respiration. It also delves into how energy is transferred and how nutrients are recycled within ecosystems.
<b>Unit 2 - Cells</b> <b>Term: Year 12 Autumn</b> This unit provides a closer look at cells; it covers the ultrastructure of cells, cell division, how substances are transported across cell membranes and the immune system.	<b>Unit 6 - Organisms respond to changes in their environments</b> <b>Term: Year 13 Autumn</b> This unit looks at how organisms maintain a stable internal environment. It also provides deeper knowledge and understanding of nerves, hormones and heart rate control.
<b>Unit 3 – Exchange and Transport</b> <b>Term: Year 12 Spring</b> This unit delves in to how substances are exchanged in animals, plants and insects. The heart, lungs and digestive system are explored in detail.	<b>Unit 7 - Genetics, populations, evolution and ecosystems</b> <b>Term: Year 13 Spring</b> This unit explores patterns of inheritance, the process of evolution and how organisms interact within communities and ecosystems.
<b>Unit 4 – Genetic information, variation and relationships between organisms</b> <b>Term: Year 12 Spring</b> This unit provides an overview of the role of DNA and looks at relationships between organisms, including classification and biodiversity.	<b>Unit 8 – The control of gene expression</b> <b>Term: Year 13 Spring</b> This cutting edge unit provides insight into the forefront of science, looking at gene expression, genome projects and gene technologies including applications in industry and medicine.
<b>Practical Endorsement</b> The development of practical skills is an important feature in A-Level Biology. Over the two years 12 required practical activities will be undertaken in which various skills will be assessed (non-exam). Students receive a practical endorsement along with their overall grade on their A-level certificate.	
<b>Assessment</b>	
Paper 1 – Year 12 Units (2h) – worth 35% Paper 2 – Year 13 Units (2h) – worth 35% Paper 3 – Year 12 and Year 13 Units (2h) – worth 30%	The 3 papers will be undertaken at the end of year 13.

## What opportunities are there for me to study beyond the classroom?

Access to external study opportunities are offered, guest speakers organised, and have also have successfully supported a number of students to apply for scientific research placements. There are many resources available such as lesson, past papers and a range of revision materials on the Google Classroom. In addition, students are encouraged to access online text books and journals.

## What kind of career does this subject/qualification prepare me for?

Biology is a great choice of subject for people who want a career in health and clinical professions, such as medicine, nursing, biochemistry, midwifery, dentistry or forensic science. It will also equip you for a career in industry, for example in the pharmaceutical industry, zoo, veterinary nursing, horticulture and microbiology etc.