# The Osborne Sixth Form

# Biology

A Level

Specification: https://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402

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## Why study A Level Biology?

Biology A-level will give you the skills to make connections and associations with all living things around you. Biology literally means the study of life and if that's not important, what is? Being such a broad topic, you're bound to find a specific area of interest, plus it opens the door to a fantastic range of interesting careers.
The study of life itself, A level Biology explores the theories and principles involved in living systems, in all their intricate beauty. Topics you will learn about include: lifestyle, transport, genes and health, development, plants and the environment, the natural environment and species survival, energy, exercise and co-ordination, as well as practical biology and research skills. By the end of the course you will know about the principles of genetics, molecules, taxonomy, natural selection, evolutionary theory, global warming, bacteria and viruses, and more.
You will gain an understanding of how society makes decisions about scientific issues, as well some of the ways in which the scientific community contributes to the success of the economy and society.

## What skills will I develop?

- Design, conduct and interpret scientific research
- Isolate and analyse DNA, RNA and protein
- Sequence genomes
- Conduct statistical analysis
- Apply a scientific approach to problems
- Communicate findings using models, charts and graphs
- Communicate new research findings to lay audiences
- Communicate research findings using scientific writing
- Communicate information found with peers.
- Compare your findings to those of research articles.

## What will I study?

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 (A-level only)
6 Organisms respond to changes in their internal and external environments (A-level only)
7 Genetics, populations, evolution and ecosystems (A-level only)
8 The control of gene expression (A-level only)

## How will I be assessed?

*Paper 1*

- 2 hour exam
- Covers topics 1-4
- Mix of short and long answer questions

*Paper 2*

- 2 hour exam
- Covers topics 5-8
- Mix of short and longanswer questions

*Paper 3*

- 2 hour exam
- Covers topics 1-8
- Structured questions, critical analysis and extended essay

## Where might it lead?

A level Biology is a highly respected academic A level and it makes an excellent choice, offering you access to a wide range of university courses and careers. You'll need biology for most degrees in medicine, biology, biomedical sciences, dentistry, dietetics, physiotherapy, orthoptics and veterinary medicine. Biology is usually required or recommended for courses in biochemistry, environmental science, nursing, occupational therapy, optometry, pharmacy, sports science, physiology and speech therapy.

## What are the entry requirements?

Grade 5 in Biology and at least one other Science.