



# A-Level Biology

Exam Board: AQA

Entry Criteria:

- **GCSE Biology: Grade 6 or above, or**
- **Combined Science: Grade 6,6 or higher, with at least Grade 6 in each biology paper**
- **GCSE Maths: Grade 6 or above**

## Overview

A-Level Biology offers a blend of theory, practical lab work, and analytical skills development in the study of life. Students complete 12 required practicals, exploring technologies like **gel electrophoresis**, **antibiotic testing on bacteria**, and **fieldwork** in ecological studies. Key areas of focus include **Biochemistry**, **Cell Biology**, **Genetics**, **Ecology**, and **Physiology**. This diverse exposure helps students identify areas of interest in Biology, opening pathways to careers in **medicine**, **marine biology**, **pharmacy**, **psychology**, and more.

### Key Topics Covered

1. Biological Molecules
2. Cells
3. Organismal Exchange with the Environment
4. Genetics and Organismal Relationships
5. Energy Transfers in Organisms
6. Responses to Internal and External Environments
7. Genetics, Populations, Evolution, and Ecosystems
8. Control of Gene Expression



## Assessment Structure:

### Paper 1 – 35% of A-Level

- **Duration:** 2 hours
- **Content:** Covers Topics 1-4
- **Format:** 76 marks (short and long answer questions) + 15 marks (extended response)

### Paper 2 – 35% of A-Level

- **Duration:** 2 hours
- **Content:** Covers Topics 5-8
- **Format:** 76 marks (short and long answer questions) + 15 marks (extended response)

### Paper 3 – 30% of A-Level

- **Duration:** 2 hours
- **Content:** Covers Topics 1-8
- **Format:** 38 marks (structured questions including practical techniques)



## Suggested Reading List

These books provide context and depth to the A-Level Biology curriculum:

### Genetics and Evolution

1. The Selfish Gene, The Blind Watchmaker, and Unweaving the Rainbow by Richard Dawkins
2. Genome: The Autobiography of a Species in 23 Chapters by Matt Ridley
3. The Double Helix by James Watson
4. On the Origin of Species by Charles Darwin

### Human Biology and Physiology

1. The Rough Guide to the Brain by Barry Gibb
2. The Language of the Genes by Steve Jones
3. Nature Via Nurture by Francis Crick

### Biological Diversity and Ecology

1. The Diversity of Life by Edward O. Wilson
2. The Immortal Life of Henrietta Lacks by Rebecca Skloot



## Super-curricular resources

Additional media to enhance understanding and foster curiosity in biology:

### Podcasts

- *Inside Science (BBC)*
- *The Infinite Monkey Cage*
- *Curious Cases of Rutherford and Fry*



## Complementary Subjects

- Students are encouraged to study subjects like **Chemistry**, **Maths**, or **Psychology** alongside Biology to enhance interdisciplinary understanding.



## Career Progression

A-Level Biology is essential for university courses in:

- **Biology**, Environmental Science, **Biochemistry**
- **Biomedical Science**, **Microbiology**, **Medicine**
- **Pharmacy**, **Dentistry**, and **Veterinary Science**