



A LEVEL BIOLOGY

2025-26



THE
PORTSMOUTH
GRAMMAR
SCHOOL

Course Outline

The A Level Biology course carries pupils far beyond GCSE and introduces them to the exciting world of modern Biology. With many new concepts and ideas, this A Level can lead into many different university courses and careers. There are four topic areas covered in each year. In Year 12 pupils study:

- **Biological molecules:** All life on Earth shares a common chemistry including proteins, carbohydrates, lipids, nucleic acids and water.
- **Cells:** All living organisms are made from cells. This unit looks at different types of cells and the membranes that surround them.
- **Organisms exchange substances with their environment:** Looks at the importance of surface area to volume ratio and how organisms obtain the substances needed for life.
- **Genetic Information:** DNA, genes, gene expression and how differences between species are controlled by the DNA they contain.

In Year 13 pupils study:

- **Energy transfers in and between organisms:** Life depends on the continuous transfer of energy and this unit looks at the processes of photosynthesis and respiration.
- **Organisms respond to changes in their internal and external environments:** How organisms detect and respond to the environment. How they maintain an internal environment which differs from the external one.
- **Genetics, populations, evolution and ecosystems:** How genes are passed on and how populations change over time.
- **The control of gene expression:** How are genes controlled and switched on and off?

Entry Requirements

The minimum entry requirement is a GCSE Grade 8 or above in single subject Biology or Grade 8-8 or above in Combined Science.

A Level Assessment

You will carry out 12 core practicals which are recorded and assessed in class and knowledge of these is then formally tested in the final exams. Assessment is based on three written exams in the final term. Paper 1, 35%, covers topics 1-4. Paper 2, 35%, covers topics 5-8 and Paper 3, 30%, is a synoptic paper and covers topics 1-8.

Skills Required and Developed

A Level Biology builds on the ideas and skills that you have developed at GCSE and leads to an understanding of the way in which nature works. It also helps you to understand how scientists work, improves your practical skills and helps you to develop your career ideas.

Beyond the Classroom

There are several opportunities for stretch and challenge and recent examples have included the Biology Discussion Group and Biology Olympiad sessions. There are a variety of trips every year including Biology lectures in London. There is an annual Biology field trip to sand dune and saltmarsh at East Head.

University Courses and Professions that require the Subject

Biology A Level can act as a gateway to many university courses and careers. Examples include anatomy, biochemistry, biotechnology, medicine, parasitology, agriculture, virology and natural sciences.



More Information

Contact our Head of Biology, Miss. R Poole:

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You can also find more information on the exam board's website: www.aqa.org.uk