Biology

What will I study and learn?

We begin by studying the cell and biological molecules, and go on to exchange, transport, health and disease, diet, biodiversity and evolution. The second year builds on the first-year work, looking at topics such as ecosystems and sustainability, genetics, respiration, photosynthesis, nerves and hormones, behaviour, excretion, homeostasis and gene technology.

What skills should I have and what will be developed?

Biology contains many facts and specific terminology, but it is very satisfying to learn how living things actually work. Handling scientific data is an important aspect of the whole course – just as at GCSE – so there is an emphasis on recognising patterns in data, evaluating conflicting evidence and understanding the social and ethical implications of the subject in every topic.

The biology syllabus comprises four themes: Form and function; Unity and diversity; Continuity and change; and Interaction and interdependence, which are used as a lens to approach the scale of life in biology, ranging from the molecules and cells of organisms to ecosystems and the biosphere. The content is further arranged into topics, examples include: integration of body systems; enzymes and metabolism; membranes and membrane transport. Each topic has guiding questions as signposts for inquiry such as 'What physical and chemical properties of water make it essential for life?' and 'What intermediate stages could there have been between non-living matter and the first living cells?'. Each topic also has linking questions to aid in networking knowledge across the different themes and levels of organisation such as 'How do multicellular organisms solve the problem of access to materials for all their cells?' and 'What processes happen in cycles at each level of biological organization?'

Future opportunities

Studying Biology can take you in many different directions: zoologists, botanists and conservationists seek to study and maintain the amazing natural world around us; geneticists, biochemists and microbiologists understand that the world of the very small hugely impacts all aspects of life and shapes past, present and future; anatomists, physiologists and sports scientists seek to understand the inner workings of the human body; and doctors, dentists, and biomedical and veterinary scientists combine the latest scientific breakthroughs with the most ancient human attributes of empathy and compassion.

Biology is one of the most popular choices for post-16 study at BGS. Our recent alumni have received offers to study Natural or Biological Sciences at Oxbridge, had places on medical courses, and studied degrees as diverse as Marine Biology, Biochemistry and Veterinary Science at universities all over the country.

As part of our practical work, the Department runs a field trip to study beach and dune ecology. We also offer a Further Biology course within School, which to date has seen over thirty different speakers visit including broadcasters, professors and medics. These talks, and the other elements of the course – such as visits to university science laboratories – will help you to go beyond the classroom and develop your interest in future studies and careers.

Want to know more?

Mr Alex Goodland
Head of Biology
agoodland@bgs.bristol.sch.uk

Exam Board:
ocr.org.uk

I enjoy how interactive A level Biology lessons are, and we do lots of practical work, which I find very interesting."

Kaspar, OB
Courses: Chemistry, Physical Education, and Biology

How will I be assessed?

The A level course will be assessed by three written papers covering both years that are sat at the end of the second year. These papers will also contain questions covering the practical skills sections of the course, in addition to a further practical skills component assessing a series of competencies completed during the two years.

ENTRY REQUIREMENTS
You should achieve a grade 7 or above in GCSE Biology, or a grade 7,7 in Combined Science, to study the A level course. A grade 7 in Mathematics is also recommended, with a minimum of grade 6.