



B

a biologist



BIOLOGY

A LEVEL

Entry Requirements: GCSE Science and GCSE Additional Science or GCSE Biology (to at least a grade 6). You should also have at least a 4 grade in GCSE Mathematics, as numerical and mathematical skills are important in biology.

In addition successful candidates also need to be able to communicate effectively, be able to plan and carry out research and think critically about problems.

In Biology you will develop practical skills by planning experiments, collecting data, analysing experimental results and making conclusions. You will also learn how scientific models are developed, the applications and implications of science, the benefits and risks that science brings and the ways in which society uses science to make decisions.

TOPIC 1 & 2: Lifestyle, risk, genes & health

You will discover how some parts of the body work, for example, about the lungs and heart and how materials are transported around the body, and the role of enzymes.

You will also learn about genetics and what can happen if errors occur during the replication of DNA, considering the social and ethical issues raised by genetic screening and gene therapy.

TOPIC 3 & 4: Voice of the genome, biodiversity & natural resources

You will learn how your physical characteristics have been determined by your genetic makeup and influenced by the environment. In doing so, you will learn some cell biology, about the two main types of cell division and the purpose of each type, and about sexual reproduction.

This unit explains the term biodiversity, and also the concept of natural selection and how it can lead to adaptation which drives evolution.

In this unit you will also learn about plants and their structure, and how the properties of some plants may be used to tackle issues such as sustainability.

TOPIC 5 & 6: On the wild side, immunity, infection & forensics

You will have the opportunity to look into the world of a forensic scientist and an immunologist, as well as looking into ecology, photosynthesis and speciation.

TOPIC 7 & 8: Run for your life & grey matter

In this unit you will build on your knowledge about joints and movement, and learn more about the precise mechanism of skeletal muscle contraction, respiration and homeostasis in the context of exercise.

You will also look at the effects of disease and drugs on the brain and how these effects, in turn, affect the body and the mind.

A Level Biology is 100% externally assessed. There will no longer be any coursework; instead there are 12 core practical activities carried out during the course. There will be practical-based questions in the exams; as well as 10% of the assessment being mathematical skills.

There will be an opportunity to go on a Biology residential field trip at the end of Year 12 to learn various techniques in ecology and fieldwork.

Is this for me?

AS and A Level Biology is suitable if you:

Have an interest in and enjoy biology and want to find out about how things work in the biological world by application of imaginative, logical thinking.

Want to use Biology to progress onto further studies in Higher Education or support other qualifications or enter biology-based employment

Are taking A Levels in the other sciences and/or mathematics or other relevant courses such as Physical Education and want to take another course that will support those studies.

Biology leads on to a wide range of courses and careers. This could include:

An undergraduate degree in a life sciences, medicine, veterinary, physiotherapy, environmental or forensic science, etc.

Employment, for example in the areas of biological testing, biotechnology, independent research and the food industry.

For more information please contact: **Mrs K Block**,
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