BIOLOGY

AS Biology gives the opportunity to study further the living world. It is a fascinating subject that is entirely relevant to our lives today. Through a combination of practical investigation and theory you will grow in your knowledge of the principles of how organisms function and interact with each other. You will learn about humans as living organisms and explore the ways in which we are affected by disease.

Biology is the gateway to many different career paths. Examples include Medicine and Biomedical Sciences, Dentistry, Pharmacy, Veterinary Science, Physiotherapy, Biotechnology, Forensic Science, Scientific Publishing and many more. You will develop your practical and investigative skills and have the opportunity to look in detail into ground breaking techniques such as Genetic Fingerprinting, Gene Cloning and Gene Therapy. Our knowledge of Biology is always moving forward and the new syllabus reflects this.

ENTRY REQUIREMENTS
A good grounding in Biology is essential- preferably an A or B at GCSE. You will need to be competent in Mathematics and Chemistry also. You can combine Biology with any subjects at AS but you will find that studying Chemistry at this level may help you in particular. You need to have a reasonable level of English, both written and spoken. You should have a curiosity about the subject and the ability to think for yourself.

To proceed onto A2 Biology it is important that you have achieved a satisfactory level at AS, preferably at D grade or higher.

EXAMINATION BOARD
AQA

MODULES
Some of the topics covered are listed below:

AS
Module 1 - Biology and Disease. :Cells and how they work. Enzymes. Human heart, lungs and immune system. Human disease such as cholera and heart disease.

Module 2 - The Variety of Living Organisms. :Variation. DNA. Gas exchange. Biodiversity. Evolution and antibiotic resistance in bacteria.

Module 3 - Investigative and Practical Skills

A2
Module 4 - Populations and Environment. :Photosynthesis and Respiration. Genetics and Inheritance. Ecology and human population changes.

Module 5 - Control in Cells and Organisms. :Nerves and how they work. Muscles and how they work. How genes work. Gene Cloning. Gene Therapy. Genetic Fingerprinting.

Module 6 - Investigative and Practical Skills.

ASSESSMENT
AS is assessed by two written examination papers, sat in June, involving short and long answer questions. Practical skills are assessed throughout the course, but the majority of marks are obtained during a written ISA examination.
A2 is assessed by two written papers in June. One of these will include an essay that examines AS and A2 units. Practical skills are assessed in the same way as for AS.

WHERE DOES IT LEAD?
Any science career may be possible. Biomedical careers, Pharmacology Microbiology and Biotechnology are just a few. Multinational drug companies and many other major employers all need Biologists. Analytical thinking skills and scientific theory is of benefit in many different careers. Biology is a subject for life.