

# Biology

## *at MSJ Sixth Form*



**Biology is the study of life; understanding where life came from and how it evolved, how organisms survive and how they work. If you are interested in the world around you, then you will be interested in Biology.**

Biology lies at the heart of some of the biggest challenges facing the planet today. For example, feeding the ever-increasing global population, predicting and mapping the consequences of climate change, developing new antibiotics to cure diseases, curing cancer and diabetes and dementia and understanding the origins of humanity all depend on our knowledge and understanding of biological processes. Biology suits all types, whether you are an indoor or outdoor type, whether you are interested in animals, plants, humans or microorganisms, there are options for everyone.

### TO STUDY BIOLOGY AT A LEVEL YOU SHOULD HAVE ACHIEVED:

Grade 7 or above in Biology at GCSE or equivalent and Grade 7 in Mathematics at GCSE. We strongly recommend that A Level students have studied Triple Science or its equivalent. If you wish to study one or more of the sciences at A Level and have taken the Double Science GCSE please discuss this with the relevant Head of Subject.

## WHAT DOES THE COURSE INVOLVE?

A-Level Biology aims to expand your knowledge and explore in further depth topics that were covered in the GCSE course. You will develop your understanding of the detailed structure of cells and the biological molecules that constitute all life; you will gain a better understanding of evolution and biodiversity and the interactions of humans with the environment; you will learn more about the physiology and anatomy of the human body and you will build on your knowledge of genetics and biotechnology and how these are being used to aid humans and understand the underlying causes of variation between living organisms. In Year 13 we will also attend a residential field trip to gain a fuller understanding of field work techniques and ecological studies.

## IS IT THE RIGHT COURSE FOR ME?

### What skills will I need?

Mathematics always has been and is now, more than ever, an essential skill in Biology. You will need to be comfortable with various aspects, such as ratios, fractions, percentages and graph plotting as well as statistical tests and the calculation of rates of reaction, surface areas and magnification. However, a good understanding of GCSE Chemistry is very necessary as well as a minimum of Grade 7-7 in GCSE

Combined Science Trilogy Award. The practical and application skills of Biology are interwoven through all of the final examinations and all pupils need to be accomplished and confident practitioners of Biology in a practical sense.

We embed practical skills development and activities throughout the 2 years of the A-level so all pupils can achieve practical endorsement.

## WITH WHICH OTHER SUBJECTS DOES IT WORK BEST?

Chemistry, Physics, Maths, Further Maths, Geography, Food Science and Nutrition and PE.

## WHAT ARE THE POSSIBLE CAREER PATHWAYS?

Biology is a versatile subject and the possibilities are endless. Pupils can pursue careers in medicine and medically related fields, focus on biotechnology and start-up companies, pursue drug development both from an industrial and academic perspective, study sports science and physiotherapy, move into Food science and research, become a vet, a dentist, a forensic scientist, a marine biologist, a zoologist, a botanist, a vintner, a microbiologist, a bioinformatician, a biochemist, a conservationist, a lawyer, a brewer. The options are endless.

### TWITTER

@MSJ\_STEM

### HEAD OF SUBJECT

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### EXAM BOARD

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## HOW IS IT ASSESSED?

A LEVEL Teaching Units	Assessment Method & Weighting	
<b>Module 1</b> Development of Practical Skills in Biology	<b>Biological Processes (01)</b> 2 hours 15 mins written exam 100 marks A Level - 37%  (Modules 1,2,3 & 5)	<b>Biological Diversity (02)</b> 2 hours 15 mins written exam 100 marks A Level - 37%  (Modules 1,2,4 & 6)
<b>Module 2</b> Development of Practical Skills in Biology		
<b>Module 3</b> Development of Practical Skills in Biology		
<b>Module 4</b> Development of Practical Skills in Biology	<b>Unified Biology (03)</b> 1 hour 30 mins written exam 70 marks A Level - 26%  (Modules 1 to 6)	<b>Practical endorsement in Biology (04)</b> (non exam assessment) 12 Assessed experiments
<b>Module 5</b> Development of Practical Skills in Biology		
<b>Module 6</b> Development of Practical Skills in Biology		