



KINGSTON GRAMMAR SCHOOL

FOUNDED 1561



BIOLOGY DEPARTMENT

LOWER SCHOOL

First, Second and Third Year

Students in the First Year gain an introduction to Biology as part of their Science classes, covering topics relating to forensic and food science. In the Second Year all students will have three periods of Biology over two weeks as a separate science. From the outset, we seek to develop essential scientific and analytical skills that will provide students with key evaluative and problem-solving abilities. The topics covered in the Second Year include respiratory and cardiovascular physiology as well as microbiology and reproduction. The Biology Department also runs an annual Second Year trip to London Zoo in May of each year for students to learn about conservation, habitats and animal behaviour.

In the Third Year students have four periods of Biology spread over two weeks. The Third Year syllabus seeks to further develop the essential scientific and practical skills introduced in the Second Year and places a real emphasis on experimental investigation. The IGCSE syllabus begins in November of the Third Year and focuses on key concepts in Biology as well as cell biology, nutrition and digestion.



There continues to be a significant emphasis on practical and scientific skills at IGCSE level. Through this hands-on approach, students are expected to further develop manipulative skills, careful and accurate observation, and good data-collection techniques.

GCSE

Fourth and Fifth Year

Biology is taught in five lessons spread across two weeks and builds upon the material encountered lower down the school with a view to providing the best preparation for the IGCSE examinations and A Level Biology beyond that.

Students are put into Science ability sets for the first time in the Fourth and Fifth Year and there are opportunities for movement between these sets at various points in their GCSE years. Setting allows teachers to differentiate the teaching and learning more effectively, helping to maximise the potential of the students in their class.

A LEVEL

Lower and Upper Sixth

A Level Biology is a popular Sixth Form choice at KGS. We attract about 30 to 40 students each year and most of them continue with the subject into the Upper Sixth. We follow the AQA Biology specification which seeks to promote analysis and evaluative learning within the subject, helping to build on the key scientific skills that students were first introduced to lower down the school.

Students who choose Biology will have eleven 50-minute lessons each fortnight in the Lower Sixth and thirteen 50-minute lessons each fortnight in the Upper Sixth. The topics covered include biochemistry, cell biology, human and animal physiology, immunology, genetics and biotechnology. All A Level examinations will



take place at the end of the two years of study. Students in the Lower Sixth will sit a Trial Examination at the start of the Summer term. Students embark on a Biology field trip to Studland Bay in Dorset towards the end of their Lower Sixth year where they gain first-hand experience of field-based research techniques.

In the Upper Sixth the topics covered include ecology, conservation, further biochemistry, muscle physiology, endocrine physiology, neurobiology, additional genetics and additional biotechnology. Students sit three, two-hour, A Level Biology exams in June of their Upper Sixth year. Practical skills competency will be assessed via 12 prescribed experiments that will be completed during the course of the two years, six in the Lower Sixth and six in the Upper Sixth. The practical skills assessment constitutes a separate qualification to the A Level.

THE DEPARTMENT

The Biology Department is well equipped with all the apparatus and materials necessary for students to thrive in their studies. Student learning is assisted by the use of up-to-date ICT equipment, including Chromebooks, tablets and data-loggers

as well as university-level experimental equipment such as gel electrophoresis kits and colorimeters. Whenever possible, the teachers promote a hands-on learning experience through practical investigation.

A Level Biology results have been very pleasing over the last few years and many of our A Level biologists go on to study Medicine and other biomedical and biology-related degrees at university.

Biology is at the forefront of modern scientific research and aspects of those key areas of investigation have filtered into the school curriculum. It is a subject with relevance to everyone as well as being a very exciting and engaging science.

The Biology Department consists of three dedicated laboratories and two preparation rooms. There are five full-time teachers whose specific areas of expertise include physiology, ecology, biochemistry, molecular biology and genetics. The Department is well supported by two technicians.

	2020	2019
GCSE 9 - 7	97%	97%
A Level A* - B	90%	85%

Head of Department
Mr M Rodgers
mrogers@kgs.org.uk

Kingston Grammar School
London Road, Kingston upon Thames
KT2 6PY

enquiries@kgs.org.uk
020 8546 5875
www.kgs.org.uk

@KGS_Science



KINGSTON
GRAMMAR SCHOOL
FOUNDED 1561