

SCIENCE DEPARTMENT

THE TEAM /FACILITIES

The department consists of 19 full time teachers and 4 part time, working in well-resourced groups of 11 (Newport Pagnell) and 5 (Olney) laboratories. There is excellent support from a team of 6 laboratory technicians. There are 5 main preparation rooms in total, 3 of which are associated with a subject specialist area for Sixth Form teaching. An Eco Centre provides a great resource to enhance the teaching of science and the environment.

KEY STAGE 3

From October in Yr7 until year 9, students are taught in sets based on ability for 3 hours per week. Using a logical order of objectives, our syllabus uses big ideas and mastery goals. The ten big idea headings we use are Forces, Electromagnetism, Energy, Waves, Matter, Reactions, Earth, Organisms, Ecosystems and Genes. The two areas of mastery we use are to know and to apply. In year 9 these areas are developed to form a spiral curriculum with the expectation that students enter KS4 with a level of proficiency to be successful at GCSE. We seek to ensure students love science and can make the links between what they observe in the world around them and the science they study.

KEY STAGE 4

Currently students either study science for 6 hours a week leading to three GCSE science qualifications in Biology, Chemistry and Physics or 4 hours a week leading to two science qualifications in GCSE Combined Science, each lesson is 60 minutes long. Resources ensure that teachers use a variety of learning styles and activities to engage all students for example practical work, pair work and group work, as well as understanding why we study science and how scientists acquire the power to change the future. Skilled questioning is at the heart of our pedagogy.

SIXTH FORM

The sciences are very popular options in the Sixth Form. Good results at GCSE level are resulting in a stronger uptake onto Science courses in the Sixth Form. Each year, a significant number of students go on to study science, engineering and medical degree courses at prestigious universities including Oxbridge and other Russell group institutions. All three science A levels deliver outstanding results.

PHYSICS A LEVEL

The AQA course incorporates 3 core modules and one option from Astronomy & Optics, Particle Physics or Medical Physics. Students are encouraged to attend lectures and undertake visits off site to enhance their learning about the subject.

CHEMISTRY A LEVEL

This is a popular course which has obtained consistently high pass rates following the AQA course. An Advanced Chemistry Club is held each week after School. Various Chemistry enrichment events are run through the year in addition to various Royal Society of Chemistry trips.

BIOLOGY A LEVEL

This is a very popular subject and results are high. The AQA specification is followed and consists of 3 units in each year and includes biology and disease, genetics, environmental science and various aspects of physiology. There are opportunities for enrichment activities at Universities for the right candidates and we regularly host guest speakers to discuss their research.

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OUTSIDE THE SCIENCE TIMETABLE

Due to science being such a vast and interesting subject, our aim in science is to enthuse as many future scientists as possible. This is why we run our own school competitions, as well as entering many local and national competitions for STEM and Crest awards to Chemistry Olympiads. We also offer various aspire sessions at all Key Stages and enrichment sessions, with kitchen science being a very popular session. During the summer ace days, we run trips to Cern, and study the ecology of the local area as well as offering forensics and operating theatre live options.

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