



Science Department Information

The Cardinal Newman science department is a large team consisting of teachers and laboratory technicians. Colleagues have exceptionally high expectations of themselves as professionals, and work collaboratively in a lively and friendly department.

We are an outward looking department, collaborating with local schools and partners in industry to deliver a first-rate quality of science education. Teaching and Learning KS3 study takes place in years 7 and 8, and follows the Oxford 'Activate' programme. Students are taught in mixed ability groups. In year 9, students are re-set according to the needs of the current cohort, and this may or may not be according to ability. Groupings are then carefully monitored across the key stage and are adjusted in response to performance data and pastoral need.

At KS4, the AQA specification is followed. Around 30% of students take triple science, with the remainder following the combined pathway. Teaching tends to be within subject specialisms, however a 'second specialism' may be called upon as staffing arrangements fluctuate. Having said this, we are lucky enough to have excellent teachers in across the specialisms. Last year, over 80% of students obtained grades 9-4 at GCSE. We have a large intake of students at KS5, with in excess of two-hundred students following science courses at any one time. Biology (AQA), Chemistry (OCR) and Physics (with astrophysics). (AQA) are offered, alongside BTEC Applied Science Extended Certificate (Pearson). Standards are excellent and rising, with each subject performing at least at ALPS 5 and above. Resources The department benefits from thirteen laboratories.

As with all schools, resources are beginning to become stretched as a result of the current funding crisis, however with a little creativity, the effects have been mitigated to ensure a consistently high standard of resourcing. Whilst most teachers look after their own lab, it is expected that all teachers will move rooms from time-to-time. Enrichment and support Science club at KS3 is currently well attended, with up to thirty students in attendance. This activity is supported by teachers and technicians alike, and takes place on a bi-weekly basis. Further up the school, KS4 and KS5 students are involved in research projects which generate genuine research data for partnership universities. In physics, the HiSPARC project is currently making use of data collected by our cosmic ray detectors, constructed and monitored by students in year 10 and year 12.

In biology, students are annotating genetic information for the human whipworm genome, which is part of the IRIS research school initiative. The science department

are also developing a partnership with Roche Diagnostics, which is in its infancy. It is our sincere hope that this fantastic opportunity will lead to a range of activities to enrich the learning of our students, such as site visits to the Roche laboratories at Burgess Hill, work placements, research projects and special assemblies which connect students with real applications of science.