

The Judd School Chemistry Department

Chemistry is a successful and popular subject at Judd, with strong results both at GCSE and A Level. The department is staffed by six qualified, specialist Chemistry teachers and is supported by three dedicated part-time Chemistry technicians. Both teachers and students are encouraged to extend teaching and learning beyond the standard syllabus at all Key Stages, with emphasis on exploring and highlighting the context and relevance of topics and ideas, practical application and hands-on experience, and future developments of theory. The use of ICT as a complementary resource for demonstrations is strongly supported, with resources being available online for all sections of the courses, including animations, interactive shows, video clips and quizzes. The department is developing its use of the school VLE.

Key Stage 3

A two-year course developed in house, where students are introduced to scientific enquiry and basic chemistry principles to lay the foundation of the core chemistry concepts required in later years. The course is delivered through a mix of theory, practical work and open-ended investigations. A good number of very enthusiastic year 7 students attend 'The Potions Club', which aims to stretch and challenge.

Key Stage 4

All students commence a three-year GCSE course in Year 9 (currently AQA). Lessons are a mix of theory, practical and problem based learning to help develop a hands on approach to Chemistry. The aim is for students to be able to use their theoretical knowledge to explain experimental data. They are assessed by 2 written papers in the summer of Year 11 and a series of required practicals which are carried out over the three years.

Sixth Form

Chemistry A Level is a very popular choice, with around 120 students studying the subject in each year group. We follow the OCR B Salters course which requires the ability to apply theoretical knowledge to new and unfamiliar contexts. Content is delivered in a variety of styles, with emphasis placed on problem solving skills, linking theory to practical work wherever possible. The course is assessed by 3 written papers in the summer of Year 13 and a series of required practicals which are carried out over the two years.

Sets are shared between two teachers with the syllabus being divided accordingly. Teaching Chemistry in the Sixth Form is demanding and enjoyable; the students are often very inquisitive and many do a great deal of reading around the subject themselves, often discussing issues with their teachers. Independent study at KS5 is encouraged and students are provided with a list of lessons for the year in order to facilitate them reading ahead or catching up on notes following absence.

Students are encouraged to enter highly regarded Chemistry Competitions (such as the RSC Chemistry Olympiad and the Cambridge lower Sixth Chemistry Challenge) with a good proportion achieving the higher distinctions. We also run very popular Chemistry and Medical Societies, which are led by the students with talks and demonstrations as well as visiting speakers. This gives the students opportunities to extend their knowledge beyond the syllabus and gives them an advantage when going on to university.

Teaching Methodology

The primary aim of The Judd School is to develop students who are open and independent learners that will achieve highly and be prepared to be lifelong learners, in a rapidly changing world. To achieve this aim teaching at The Judd School must develop students with the following characteristics:

- 1) respectful – respecting others' point of view, interests and beliefs
- 2) inquisitive – being curious and creative; keen to challenge themselves, including using their imagination to stretch themselves as learners, beyond what comes easily
- 3) collaborative – learning in teams
- 4) courageous – taking risks and learning from their mistakes or failure
- 5) reflectiveness – taking responsibility for their progress by planning, reviewing and improving their own learning
- 6) reasoning – using logic and rationality to construct effective arguments, and identify flaws in others' arguments

All activities provided by the school, curricular and extracurricular should support development of these characteristics in our students. All teaching at The Judd School must support and encourage the development of the characteristics listed above and all teachers are expected to conform to The Judd School Teachers' Standards. There is no one preferred teaching style at The Judd School and teachers are encouraged to develop individual teaching styles which are effective and suitable to their subject specialism.

