

INTRODUCTION TO THE CHEMISTRY DEPARTMENT

Teaching

Chemistry is a popular subject at A-level, the third-largest in the school. We currently have over 150 sixth form chemistry students, in 10 classes. Students have nine 1-hour lessons per fortnight, five with one teacher and four with another. We follow the AQA A-level specification. We are lucky to work with many talented and motivated students: students are exposed to the possibility of further study into chemistry through evening lectures, the University of Birmingham's ChemBAM initiative and the Royal Society of Chemistry's Spectroscopy in a Suitcase Workshop. Last summer seven students left us to study chemistry at university, along with another five to study chemical engineering and a host of students in biochemistry, pharmacology and pharmacy.

Pupils are taught chemistry, biology and physics separately from year 7, by subject-specialist teachers. Small class sizes (no more than 26 students) allow more individualised learning to take place. Pupils have two 1-hour chemistry lessons per fortnight in year 7, three in year 8 and two in year 9. We have a strong emphasis on practical skill, pupil engagement and enjoyment in Key Stage 3, with GCSE teaching formally beginning in year 9. Important concepts and skills including enthalpy changes and balancing equations are taught in Key Stage 3, enabling students to be continually challenged throughout their chemistry lessons.

As a recently-opened school, we currently have year 7, 8, 9, and sixth form students. The school will reach capacity in 2019, when our current year 9 students enter year 11. At GCSE, students will opt to take separate chemistry, biology and physics GCSEs, or GCSE Combined Science: Trilogy, all following AQA specifications. All pupils will have four hours of chemistry teaching 10 and 11. Teachers who join the school at this exciting, pioneering stage will have the opportunity to help design and shape the curriculum.

Facilities and equipment

All chemistry lessons are taught in outstandingly designed and resourced laboratories. Of particular attraction is the chemistry superlab: a double-sized laboratory ideally suited to large practicals and outreach events. Every laboratory has an interactive whiteboard with visualiser.

The department recognises the potential for ICT to be used to enhance students' learning of chemistry through animations and modelling. The school has multiple class sets of iPads (with specialist chemistry apps) and laptops, which are embedded into our schemes of learning and are used in a high proportion of our lessons. These resources are booked online and delivered directly to laboratories.

We have an incredible array of top-quality, brand-new equipment, thanks to our generous budget of £30,000 for chemistry last year. Equipment suggestions are welcomed from teachers as we design a hands-on curriculum for all year groups. We encourage pupils to work individually in practicals, and have the resources to do this. We also have a range of up-to-date textbooks and online resources, and have chosen a wide variety of chemistry-related books for the library.

Teacher CPD, Support and Progression

The chemistry department has close links to the West Midlands Chemistry Teachers' Centre, attending teacher training workshops and lectures. In addition, the department has benefitted from working closely with the University of Birmingham's School of Chemistry and School of Education, and the RSC's Secondary and Further Education Group. In addition, there is a research-led CPD programme for all teaching staff, delivered with the support of the University's educational experts, and a comprehensive programme to support newly-qualified colleagues. A number of members of staff are completing their Masters while at the school, and are supported throughout by a School Teaching Fellow.

A rapidly-growing institution like the University of Birmingham School offers regular opportunities for progression. In addition to the many opportunities to contribute to enrichment and lead projects within the department, there have been several internal appointments to roles with a variety of additional responsibilities.

Enrichment

Pupils and students enthusiastically engage with our enrichment programme, which has so far included:

- **For the sixth form**, the Royal Society of Chemistry's Olympiad, Cambridge Chemistry Challenge, lectures from University academics, and Oxbridge preparation.
- **For the lower school**, STEM club, and British Science Association CREST Awards.

These activities are timetabled into the school day and rotate through the year to provide interest for students and staff alike. Many teachers choose to lead enrichment activities in range of sports, creative pursuits and other hobbies.

The Team

The chemistry department is an enthusiastic and committed team of three full-time, talented and well-qualified teachers, and pro-actively supported by our Vice-Principal who teaches some of our A-level students. We work extremely well together, and enjoy passing on our passion for the subject to the students we teach. Five full-time experienced and enthusiastic technicians support the whole school; with one technician dedicated to chemistry at all times. A professional services team supports the departments by providing reprographics services, photocopying and laminating teaching resources as needed. We work closely with colleagues across other subjects, particularly the other Sciences and Mathematics.

The staff body has a strong social element, with Tuesday and Friday tea and cakes, and regular social sports in school. All are popular and well-attended.

You are welcome to contact David Ashmore, the Subject Leader for Chemistry, at d.ashmore@uobschool.org.uk with any queries regarding the department.