



# Chemistry

## AQA A level Chemistry



Chemistry is the study of matter, its properties, composition, and the changes it undergoes. A-level Chemistry is a challenging and rewarding subject that provides a deep understanding of how substances interact at the atomic and molecular levels. The course builds a foundation for further study and careers in sciences, medicine, and engineering.

### Topics you will study

#### Year 12:

**Physical Chemistry:** atomic structure, bonding, energetics, kinetics, and chemical equilibria

**Inorganic Chemistry:** periodicity, Group 2 and Group 7 elements, and introduction to transition metals

**Organic Chemistry:** structure, bonding, and properties of hydrocarbons, alcohols, and haloalkanes, plus basic mechanisms and organic reactions

#### Year 13:

**Advanced Physical Chemistry:** thermodynamics, rate equations, equilibrium constants, and electrochemical cells

**Further Inorganic Chemistry:** the chemistry of transition metals, complex ions, and qualitative analysis

**Advanced Organic Chemistry:** aromatic chemistry, carbonyl compounds, amines, polymers, and analysis techniques including NMR and chromatography

### Why study this subject?

- Understand the World at a Molecular Level: Chemistry provides insight into the composition and reactions of materials, from everyday substances to the complex molecules that make up life.
- Develop Analytical and Practical Skills: A-level Chemistry emphasizes problem-solving and experimental skills, both vital for careers in science and technology.
- Build a Foundation for Future Studies: Chemistry is essential for degrees in medicine, pharmacology, engineering, and biochemistry.

### Why study this subject at Aston?

- Smaller Class Sizes Than College: Enjoy more personal guidance, feedback, and support in practical sessions and theoretical lessons.
- Expert Teaching Staff: A highly qualified team, with 20+ years of teaching and research experience.

### Assessment

Your grade will be based on three 2-hour exams in the summer of Year 13.

**Paper 1:** Physical Chemistry and Inorganic Chemistry

**Paper 2:** Physical Chemistry and Organic Chemistry

**Paper 3:** Synoptic paper covering all content, including practical skills and multiple-choice questions

### Links particularly well with these subjects

Physics, Maths, Psychology, Medical Science, Applied Science, Further Maths

### Entry requirements

Grade 6 or above in GCSE Chemistry or Combined Science and grade 5 or above in Mathematics.

### Useful for careers in....

Chemistry is particularly valuable for careers in Medicine, Pharmacy, Chemical Engineering, Biochemistry, Environmental Science, Forensic Science, Pharmacology, Dentistry, and Material Science.