



CHEMISTRY

Welcome to A-level Chemistry. In order to succeed you will need to develop your learning skills further. Effective learning needs time, planning, effort and concentration. This guide has been put together to give you the best possible start to your A-level Chemistry and to develop your interest for the wider context of the subject.

We follow the A-level chemistry AQA syllabus

Year 1

1. **Physical chemistry.** Atomic structure, amount of substance, bonding, energetics, kinetics, equilibria, redox reactions.
2. **Inorganic chemistry** Periodicity, group 2 and group 7
3. **Organic chemistry** Introduction to organic, alkanes, halogenoalkanes, alkenes, alcohols and organic analysis

Year 2

1. **Physical chemistry** Thermodynamics, kinetics, equilibrium, electrode potentials and electrochemical cells, acids, bases and buffers.
2. **Inorganic chemistry** Periodicity, the transition metals, reactions of inorganic compounds in aqueous solutions.
3. **Organic chemistry** Nomenclature and isomerism, compounds containing the carbonyl group, aromatic chemistry, amines, polymerization, amino acids, proteins and DNA, organic synthesis and analysis.

For more detail on the course content and assessment you can visit the AQA website.

<https://www.aqa.org.uk/subjects/science/as-and-a-level/chemistry-7404-7405>

Tasks

- In order to prepare for the beginning of the A-level course you must work through the CGP guide *Head Start to Chemistry* (ISBN: 9781782942801). It recaps all the crucial topics you will need to remember from GCSE, with study notes and examples, plus practice questions to test your understanding.
- Use the website of the Royal Society of Chemistry to explore the links between Chemistry and Art across the ages and many other topics.
<https://edu.rsc.org/resources/collections/chemistry-and-art>
- The website 'Compound interest' is a fantastic resource to keep up to date in Chemistry news, and to find answers to interesting questions such as, what do hair dyes, rocket fuels and glow sticks have in common? The author of the website, Andy Brunning, has also published a fantastic book, *Why does asparagus make your wee smell? And 57 other curious food and drink questions*, which you can purchase on the website.
<https://www.compoundchem.com/>
- The student section of the Royal Society of Chemistry website has a wealth of resources to help you learn Chemistry and information about careers pathways in the chemical sector.
<https://edu.rsc.org/student>
- We also have a New Scientist online subscription. The login email address is sas@stedmunds.org.uk and password is moonlanding. Find some Chemistry related articles that interest you and write a summary after reading them.
- You can use this revision website to start getting familiar with some of the topics of the A-level course.
<https://chemrevise.org/revision-guides/>
- You can use the website 'MolView' to draw your own molecules and then visualise them in 3D.
<https://molview.org/>
- The following books are a fantastic source of wider chemistry knowledge and anecdotes
Elements of Murder – A history of poison: J Emsley, 2006
The Disappearing Spoon...and other true tales from the Periodic Table: Sam Kean, 2011