Subject: **Chemistry**

Task instructions:

You need to provide a piece of work explaining how a 'Time of Flight' Mass Spectrometer works. The work should be no longer than two pages of A4 and be presented as a word document. It should be written in your own words, not cut and paste from websites or copied from a book.

Useful resources:

TOF mass spectrometry notes 1

TOF video

Success criteria:

To be successful you need to describe the processes that take place in a ToF mass spectrometer. These include:

- Ionisation
- Acceleration
- Ion drift
- Ion detection
- Data analysis

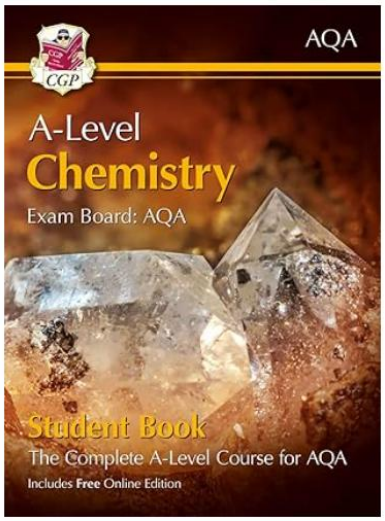
- Include a labelled diagram
- Explain how time of flight mass spectrometry can be used to identify elements
- Explain what electrospray ionisation is and its effect on the mass detected
- Explain what electron gun ionisation is and its effect on the mass detected

Submission:

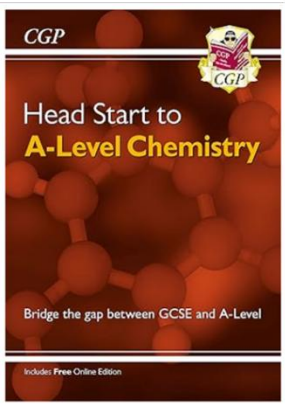
Please note that successful completion of satisfactory transition work is a condition of your offer of a place. Please ensure that all work is completed and emailed to the teacher responsible for this subject. Please put your full name and 'Chemistry transition work' in the subject of the email.

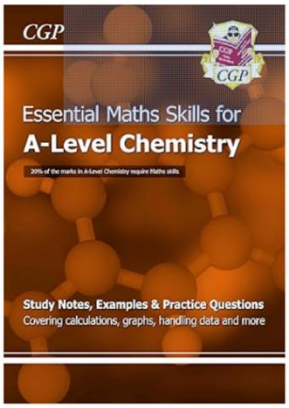
If we have any concerns that your work does not meet the standard expected for the course, we will be happy to discuss alternative courses with you.

Resources to purchase for September



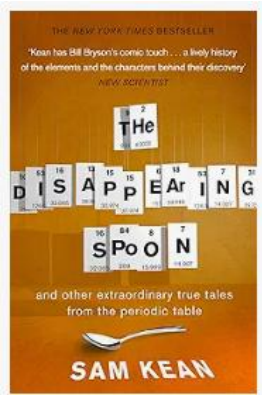
Optional textbooks

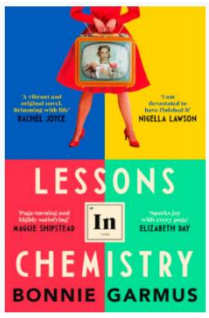




All students are expected to purchase a copy of the course textbook. This will be used to set homework and is an invaluable learning tool. The course textbook is *A level Chemistry – Student book – The complete A-level course for AQA*. We would also recommend that you pick up two further books to support your learning. The first is a transition book which will help you prepare for the A level course: *Head Start to A-level Chemistry* (CGP A-Level Chemistry). The second is an invaluable tool to support your maths skills whilst studying the course: *Essential Maths Skills for A-level Chemistry* (CGP A-Level Chemistry)

Optional background reading





The disappearing spoon – Sam Kean

Lessons in Chemistry – Bonnie Garmus

A short history of nearly everything – Bill Bryson

Magic molecules: How drugs work – Susan Aldridge

Atkins' Molecules – Peter Atkins

Why Chemical reactions happen – James Keeler, Peter Wothers

Made to measure – new materials for the 21st century – Philip Ball

Cathedrals of Science: The Personalities and Rivalries That Made Modern Chemistry – Patrick Coffey

The Periodic Table – Primo Levi (not a science book as such, but an excellent read)

Nature's building blocks: An A-Z guide to the elements – John Emsley