



When you start the course in September you will want to make the best start possible. Independent study is a vital for success at A level and beyond. It is advisable to reflect on the revision strategies you used during your exams and think about what worked and how to study more efficiently. Time management is vital for A level success so begin to plan how you can effectively manage your time both during the school day and beyond.

The first topic you will meet in the course is about atomic structure, within which you will both build upon GCSE material and meet new ideas. Historically students have found some of the ideas challenging and so we strongly recommend that you take time during the summer to do some background reading. To help you we are setting a chemistry task that everyone must complete and, have also directed you to specific topics that we recommend you familiarise yourself with before starting the course.

Atomic structure: Sub shells, shapes of s and p orbitals and writing configurations.

Bonding & shapes of molecules: Broadly speaking the detail on bonding is the same as for GCSE. However, students struggle often to then understand ideas about shapes of molecules. Look into VSEPR theory and shapes of simple covalent molecules.

Calculations: Calculations from titrations involving moles (amount of substances), calculations for working out how to create solutions of know concentration or to dilute to a desired concentration.

Use <http://www.chemguide.co.uk/> and <http://www.docbrown.info/AlphaIndexA.htm>

Compulsory Task

Please create a poster detailing how a time of flight mass spectrometer works. Within this you need to explain what it is used for, what the output of the machine looks like and how this can be interpreted. In addition, please look into electrospray ionisation and electron bombardment ionisation.

To extend the work you could look in to the equation that shows the relationship between mass, time of flight, charge and distance travelled. How can this be used to determine each of the values?

We will display some of the best work, however, it is all useful as we will look at time of flight mass spectrometers early on in the year and this will give you a head start.

Additional information and support:

Download AQA Chemistry specification, read through it and then refer back to it as you progress through the course.

<https://filestore.aqa.org.uk/resources/chemistry/specifications/AQA-7404-7405-SP-2015.PDF>

AQA Chemistry specification exam board information

We highly recommend that anyone studying A Level chemistry joins ChemNet for free to gain access to a range of helpful resources and events.

<https://edu.rsc.org/news/rsc-chemnet-online/2020800.article>

Explore your knowledge and understanding [http://www.rsc.org/learn-](http://www.rsc.org/learn-chemistry/resources/gridlocks/)

[chemistry/resources/gridlocks/](http://www.rsc.org/learn-chemistry/resources/gridlocks/) A great resource for study skills and revision tips is

<https://www.examtime.com/study-resources/> Another source of study skill tips is

<http://www.crickhowell-hs.powys.sch.uk/wp-content/uploads/2009/11/Essential-Study-Skills.pdf>

The Royal Society of Chemistry provides excellent resources for those studying A level as well as information about courses and careers beyond school:

<https://my.rsc.org/careers> <http://www.rsc.org/learn-chemistry/collections/faces-of-chemistry>

<http://www.rsc.org/resources-tools/education-resources/>

If you feel you'd benefit from additional support with calculations we recommend Jim Clarks book "Calculations in AS and A level Chemistry and the online resource

<http://www.rsc.org/learn-chemistry/resources/problem-solving-tutor/>