



5 hours in... Chemistry

Research shows that the most successful students (i.e. those that make the most progress and get the highest grades) are doing between 20 and 25 hours of independent study per week by the end of Year 13. That may seem a lot, but it's something that you would build up to over the course of your A-Levels. In Year 12, we're talking something more like 15 hours per week. This equates to roughly 5 hours of independent study per A-Level per subject.

Remember that your independent study is divided into three types – **Consolidation, Reactive and Proactive**. How this is divided may vary from week to week or between subjects but one approach could be:

Consolidation - 45mins

Straight after a lesson, or that evening / the following day you should reread your notes, talk a topic through with somebody, write summaries, mindmaps, flashcards e.g. for equations, definitions, facts you need to recall etc. Consider using Cornell notes to summarise your learning from lesson. Read the relevant pages in the text book and answer any summary questions, borrow a CGP text book to review the theory from a different angle – lots of questions in this as well.

Reactive – 3hrs

This is your 'homework'. Each of your teachers should give you at least 1 hours' worth of homework each week. This could be linked to upcoming exams, preparation work for practical work or writing up lab work that has already been carried out. All lab work should have a conclusion! Complete any graphs, analysis, interpretation or evaluation for the practical in question. Make sure you answer any questions at the end of the lab sheets – these help you to develop links between theory and practice.

If you find this takes more than 1 hour, that's fine, you can take this from the proactive phase (not from the consolidation phase though). Equally, if you find you finish your reactive work quickly, spend more time on your proactive work.

Proactive – 1hr 15mins

This is the section that will broaden and deepen your overall understanding of the subject you are studying. It will not necessarily involve work that has been set by your teacher, but instead it is about you doing the extra practice questions, reading articles, watching videos, TED talks etc. In Chemistry, this might contain some of the following:

- Use the specification checklist or assignment brief to evaluate your understanding (10 mins)
- Legacy papers are on Teams – identify an area to work on and collate a selection of exam questions on that topic area. Answer a question and review your answer with the mark scheme. Identify any areas to work on – understanding of content, use of technical vocabulary, laying out of calculations (1 hour)
- Try a Chemistry Olympiad question, and analyse mark scheme (20 mins)
- Attempt some interesting questions on the Cambridge Chemistry Challenge (20 mins)
- Review key ideas using Allery Chemistry
- Develop mastery using resources from Isaac Chemistry
- Use Seneca Learning to complete and add to class notes (30 minutes)
- Answer questions from your revision guide (30 mins)
- Creation of knowledge organisers / mind maps (particularly for organic chemistry) (1 hour)
- "Read, Cover, Write and Check" sections of Knowledge organisers (30 mins)
- Watch a TED talk on a relevant topic (20 mins)
- Sign up for a bridging MOOC on a topic that really interests you

Useful links

- TED Talks <https://www.ted.com/talks?sort=newest&language=en&topics%5B%5D=Science>
- Chemistry Olympiad <https://edu.rsc.org/resources/chemistry-olympiad-past-papers/1641.article>
- Cambridge Chemistry Challenge <http://www.c3l6.org/posts>
- Seneca <https://www.senecalearning.com/>
- Allery chemistry <https://www.youtube.com/c/AlleryChemistry>
- Isaac Chemistry <https://isaacphysics.org/chemistry>
- FutureLearn <https://www.futurelearn.com/courses/everyday-chemistry>