Subject: Chemistry Pre-University (Extension Material)

Let's revisit why you might study chemistry

- Chemistry answers questions. Why do leaves change colour in autumn? Why are plants green? How is cheese made? Why does soap clean? All answered by chemistry.
- Chemistry can help you make informed decisions, not just about science, but about life. If you understand how chemistry works, you'll be able to separate reasonable expectations from pure fiction.
- Chemistry makes you a better cook! If you understand the chemical reactions involved in making baked goods rise or neutralising acidity or thickening sauces, your spag bol will be the best in your student flat.
- Chemistry teaches useful skills. As a science, it means learning how to be objective, how to reason and solve problems. It also makes sense of current events, including climate change, pollution, and technology.
- Chemistry opens up career options. Even if you're looking for a job in another field, the analytical skills you gained in chemistry are helpful. Chemistry applies to the food industry, retail, transportation, even art.

To help you explore some of the above the following links might be useful:

The difference between study at university and school… be prepared! A typical approach can be found: https://www.dur.ac.uk/chemistry/outreach/dusting/students/school/

A typical Chemistry course reading list may be found: http://www.ox.ac.uk/sites/files/oxford/media_wysiwyg/Introductory_reading_for_Chemistry.pdf

But there is plenty you can read that's not a 'core' textbook that reaches beyond the 'lecture theatre' into society. These might include many found here: https://www.goodreads.com/genres/chemistry

Alternatively, a range of interesting podcasts on chemistry topics can be found at: https://www.chemistryworld.com/podcasts

A typical chemistry undergraduate course structure looks something like this, https://www.southampton.ac.uk/courses/chemistry-degree-bsc#course-structure. Reflect on your A-level studies. Where are your strengths and weaknesses going to be? Some of the questions and answers here may help with this https://study.com/learn/chemistry-questions-and-answers.html and if you want challenging questions for now that good A-level knowledge will help with then there are always the Olympiad questions: https://edu.rsc.org/resources/chemistry-olympiad-past-papers/1641.article

Practical work will be a very important part of your course https://www.dur.ac.uk/chemistry/outreach/dusting/students/practicals/

Oh, and don't forget that chemistry involves some maths. Here is a typical revision checklist of the maths that you will need. https://www.imperial.ac.uk/media/imperial-college/faculty-of-natural-sciences/department-of-chemistry/public/undergraduate/teaching/Chemistry-Welcome-Booklet-2018-19.pdf

If studying chemistry then it is worth visiting and becoming a member of the Royal Society of Chemistry. https://www.rsc.org/

If planning on studying an allied course supported by chemistry then the following would be useful places to visit:

- Chemical engineering: https://www.icheme.org/
- Medicine: https://www.medschools.ac.uk/
- Dentistry: https://bda.org/
- Biochemistry: https://www.biochemistry.org/
- Veterinary: https://www.bva.co.uk/
- Teaching: https://www.stem.org.uk/