

Summer Preparation Task

A Level Chemistry

Why study Chemistry at Magna?

At Magna we run the AQA A-level Chemistry course. This is a two year linear course during which you will learn the multiple aspects of Chemistry in the real world, how these are applied and used for research, development and manufacture. Through the required practicals and other class activities you will also acquire the practical skills relating to chemical analysis, synthesis and more.

Purpose of task:

Students often describe the leap from GCSE to A-level as a big one. Consolidating knowledge from GCSE that A-level will build upon will help you have a strong and confident start on your A-level journey. The tasks will give you a head start on the topic of titrations (part of the physical chemistry content) and alcohols (part of the organic chemistry content).

Task:

1. Work through the resources provided on titrations. Write a coherent method (including equipment, chemicals, and detailed steps) on how you would find the concentration of a solution of potassium hydroxide.
2. Complete the calculation showing all your working. 25.0cm³ of an unknown concentration of potassium hydroxide is titrated against 26.3cm³ of a 2.50 mol/dm³ solution of hydrochloric acid. What is the concentration of the potassium hydroxide solution?
3. Research the two different methods of producing ethanol. Outline the key production steps, uses of both and the advantages and disadvantages of using either method.

Recommended resources:

<https://edu.rsc.org/resources/titration/2258.article>

<https://www.youtube.com/watch?v=rLc148UCT2w>

<https://www.youtube.com/watch?v=ovx-Sro4NXM&t>

<https://www.stem.org.uk/resources/community/collection/16135/alkanes-and-alcohols>

<http://passmyexams.co.uk/GCSE/chemistry/alkenes-and-water-reaction.html>

<http://passmyexams.co.uk/GCSE/chemistry/producing-ethanol-by-fermentation.html>

Recommended reading & activities list:

If you have completed GCSE Trilogy (combined), familiarise yourself with the additional separate chemistry topics:

<https://www.aqa.org.uk/subjects/science/gcse/chemistry-8462>

<http://www.passmyexams.co.uk/GCSE/chemistry/index.html>

A-level transition resources:

https://www.amazon.co.uk/Head-Start-level-Chemistry-Level-ebook/dp/B00VE2NIGG/ref=msx_wsirn_v1_1/259-0922743-4799544?encoding=UTF8&pd_rd_i=B00VE2NIGG&pd_rd_r=0b9dbecd-8c91-43ed-8cb7-95c3137282ef&pd_rd_w=XxLER&pd_rd_wg=adPAb&pf_rd_p=2c73497e-0658-4f6d-8f3c-06c50c0881ec&pf_rd_r=XM9XCBYH1TH593V5E0S9&psc=1&refRID=XM9XCBYH1TH593V5E0S9

<https://www.youtube.com/playlist?list=PLi6oabjl6coxUlfu8syK3K0iFXQljwDUM>

Required stationary and equipment

Pens (black and green), scientific calculator, pencils, ruler, ring binder or folder.
Optional: planner, highlighters, other coloured pens for diagrams and annotations.
Provided: exercise book and lab book.

Essential resources

You will be provided with textbooks and lesson resources.
Recommended: access to the internet through a computer or laptop.

Things to consider

You will suddenly feel like you have a lot of free time. You will need to plan your time well, have high levels of self-motivation and self-discipline. Any free lessons should be spent on practice and revision for your A-level subjects. This is a 2 year linear course which means you will be examined on both year 12 and 13 content in your final exams. To be successful in chemistry A-level you need to hit the ground running and maintain effort throughout year 12 and 13. Revisiting prior topics and retrieval practice will really help to ensure you have all that knowledge to draw from at the end of year 13.