

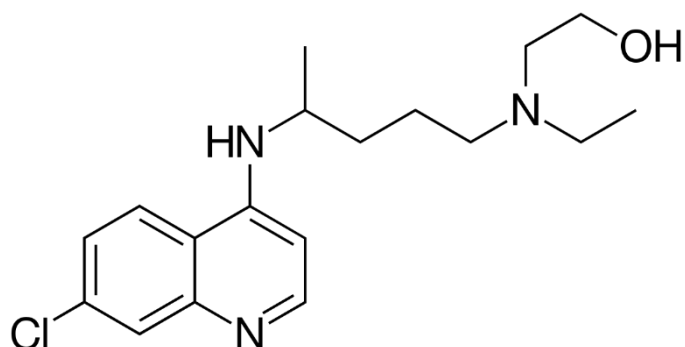
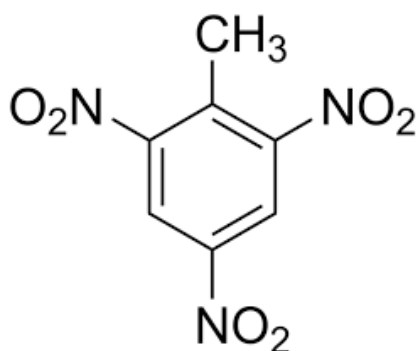
Year 12 Chemistry Summer homework

Welcome to A-level Chemistry! It is an interesting and challenging A-level subject so to help you to prepare for the course there are some activities you need to complete before September.

1. Research how the model of the atom changed over time. This can be set out in any form, for example a time-line, and should cover some, but not necessarily all of the following; key contributions from the Ancient Greeks, Dalton, Thompson, Rutherford, Bohr, Chadwick. This task will need to be put in with your class notes when you start the course in September so bring it with you for your first lesson.
2. Good mathematical skills are vital for A-level chemistry course. Below is a list of the skills which you should be confident with based on your GCSE science studies. Please check through the list and revise any areas you find difficult. There will be a test on these mathematical aspects in September. To help you with this you could look back over your GCSE notes or use websites such as GCSE bitesize to help you.

Mathematical skill
Calculate the relative formula mass (M_r) of a compound from its formula
Calculate the percentage of an element in a compound, given its formula
Calculate the masses of individual products from a given mass of a reactant and the balanced symbol equation.
Calculate percentage yields of reactions
Find the gradient of a straight line
Draw a tangent to a curve
Calculate the chemical quantities in titrations involving concentrations (in moles per dm^3) and masses (in grams per dm^3).
Calculate the energy transferred in reactions using supplied bond energies.
Calculations involving moles of a gas.
Rearranging mathematical equations.

3. You will have been introduced to the idea of the "mole" at GCSE. This is a quantity used by chemists to describe amounts of substance. Research the concept of the mole and make sure you can explain how it is used in a chemical context.
4. Fun extra task, try to find out what these molecules are:



The following websites might be helpful with this work and with your A-level studies:

- <https://www.bbc.co.uk/bitesize/guides/z3sg2nb/revision/1>
- <https://www.chemguide.co.uk/>
- <https://www.docbrown.info/>
- <https://www.a-levelchemistry.co.uk/>
- <https://s-cool.co.uk/a-level/chemistry>

You may also want to look up the specification and check you know what the content of the A-level course will be.

<https://www.aqa.org.uk/subjects/science/as-and-a-level/chemistry-7404-7405/specification-at-a-glance>

If you have any queries or need any help, please email me v.ridley@kechg.org.uk

Enjoy your summer,

Ms Ridley

Subject Leader for Chemistry