

OCR AS/A Level Chemistry A
GCSE Prior Knowledge Sheet

Module 2: Foundations in Chemistry

Teacher B: Electrons, Structure & Bonding

Chemistry is about all matter and the chemical reactions that take place between atoms. This makes chemistry a vast subject, whether you are studying the 34 elements making up a human body, synthesising a new medicine, or discovering nanoparticles for a use yet to be found. This module studies the foundations of chemistry that form the building blocks for all the other modules in your A'level course.

Amount of substance and its unit, the mole, provides chemists with an ability to convert between mass, concentration and volume to predict how much product can be made in a chemical reaction.

Electrons and bonding looks at the role of electrons in atoms and in chemical bonding. A good understanding of bonding and structure is essential for all further topics.

Shapes of molecules and intermolecular forces is all about the molecule. You will see how electrons determine the shape and polarity of the molecule. You will learn about how intermolecular forces explain many properties of molecular compounds such as why ice floats and why water is a liquid.

Knowledge and Understanding Checklist:

From your Key stage 4 study you should be able to carry out the following tasks. Work through each point, using your Key stage 4 notes and revision guides to help:

- Use a balanced equation to calculate masses of reactants or products.
- Construct dot-cross diagrams for simple ionic and covalent substances.

Maths Skills Checklist:

In this module, you will need to use the following maths skills:

- Working with standard form and significant figures, and using appropriate units.
- Changing the subject of an equation.
- Using ratios, fractions and percentages
- Calculating mathematical means
- Using angles and shapes in regular 2-D and 3-D structures

If you are concerned about your ability in any of these areas then please remember Chemistry Clinic. Staff contact details: ratkinson@nortonhillschool.com

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Use this page (and any extra sheets as necessary) to explain your understanding of the required prior knowledge for this section. It is a revision activity and will be marked with an emphasis on the included level of detail.

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