

## SUMMER BRIDGING WORK 2024

Summer Bridging Work is an important part of your transition to Wilberforce Sixth Form College. This piece of work will count towards your effort grade. Please complete your summer bridging work in time for the start of term.

**You are required to bring evidence in paper format and hand this into your subject teacher during your first lesson.**

### A level Chemistry

#### OVERVIEW OF SUBJECT

Chemistry is a central science and impacts on all areas of our lives. All of the materials used by engineers and technologists are made by chemical reactions and we all experience chemical reactions continuously, whether it be doing the washing or cooking, driving a car or listening to an iPod, or even just breathing!

Chemistry is an essential subject if you intend to have a career in medicine, dentistry, pharmacy, physiotherapy, and veterinary science. It also supports other science subjects such as biology and physics. However, chemistry is so important that it is useful for nursing, fire-fighting, plumbing, hairdressing, truck driving, paint and decorating to name but a few. Chemistry is a facilitating subject which means that the problem solving and analytical skills used in chemistry are valuable and transferrable and can enable you to move onto other seemingly unconnected careers such as accountancy or law.

#### ENTRY CRITERIA

A minimum of 5 GCSEs at grade 9-4, including English Language and Maths. A minimum of a grade 6 in GCSE Physics, Chemistry or Biology, or a double 6 in General Science. Minimum of a grade 5 in GCSE Maths.

#### LITERACY TASK

There are billions of molecules that contain carbon, so many that we study the Chemistry of these molecules in their own branch of Chemistry, Organic Chemistry. These molecules have many different shapes and sizes, sometimes because of the shapes that atoms form around a carbon atom when they are bonded to it. These shapes can be **tetrahedral, trigonal planar or linear**.

Research these terms and then write a report on how these shapes can occur in carbon-containing molecules. You should include specific examples of molecules that show these shapes and draw clearly labelled diagrams to illustrate your work. Your report should be around 500 words in length.

#### NUMERACY TASK

Calculate the **number of moles of carbon** in the following amounts of compounds:

You may have to research the structure and use it to calculate the molar mass of the compound.

1. 10 grams of carbon dioxide
2. 1 gram of ethanol
3. 15 grams of hexane
4. 12.8 grams of pent-1-ene
5. 3.4 grams of cyclohexane

## **PROGRESSION OPPORTUNITIES**

Below we have listed four careers linked to A level Chemistry. You are tasked to research the four careers, choose one that most appeals to you and write a 200-word essay as to why you feel this career would be most suited to you.

Medicine

Veterinary Medicine

Chemical engineering

Research Chemist

Kind regards

Lynne Quinn

**Faculty Head for Science and Art**

If you have any queries regarding your Summer Bridging Work, please contact me via email [lq@wilberforce.ac.uk](mailto:lq@wilberforce.ac.uk)

I will aim to respond before your enrolment appointment.