

Year 11 Chemistry Curriculum Overview – Term 2

In Term 2, Year 11 Chemistry students will focus on the following key topics in preparation for their upcoming GCSE exams: Organic Chemistry, Chemical Analysis, Chemistry of the Atmosphere, and Using Resources. Both Combined and Triple Science students will cover these areas in depth.

Topic Overviews

Organic Chemistry

1. **Fuels:** Students will study the different types of fuels, including fossil fuels and biofuels, and their environmental impact.
2. **Alkanes and Alkenes:** The structure, properties, and reactions of alkanes and alkenes, including combustion and polymerisation.
3. **Crude Oil and Fractional Distillation:** How crude oil is separated into useful fractions and the chemistry behind this process.
4. **Alcohols, Carboxylic Acids, and Esters:** The properties and reactions of alcohols and carboxylic acids, and how esters are made.

Chemical Analysis

1. **Chromatography:** The use of chromatography for separating and identifying substances.
2. **Flame Tests and Precipitation Reactions:** Identifying metal ions using flame tests and precipitation reactions.
3. **Purity and Formulations:** Understanding the concept of purity, formulations, and the use of pure substances in the pharmaceutical and cosmetic industries.

Chemistry of the Atmosphere

1. **The Earth's Early Atmosphere:** The formation of the Earth's early atmosphere and how it has changed over time.
2. **Greenhouse Gases and Global Warming:** The role of greenhouse gases in warming the planet and the human impact on climate change.
3. **Pollution:** Types of pollution, including air pollution, and the effects of human activity on the atmosphere.

Using Resources

1. **Water Treatment:** The methods used to treat water for drinking and other uses.
2. **Sustainable Development:** How resources are used sustainably, including the recycling of materials and renewable energy sources.
3. **Metals and Alloys:** The extraction and uses of metals and the development of alloys for various purposes.

This term will focus on reinforcing key concepts in **Organic Chemistry**, **Chemical Analysis**, the **Chemistry of the Atmosphere**, and **Using Resources**, with a strong emphasis on exam practice and reviewing the practical experiments necessary for the GCSE exam.