

LLOYD WILLIAMSON
SCHOOLS



Chemistry IGCSE
Curriculum



Cambridge IGCSE 0971

Introduction

This document outlines the curriculum for students studying IGCSE Chemistry at LWSF during Years 10 and 11. The course follows the Cambridge IGCSE Chemistry syllabus and is designed to develop students' understanding of chemical concepts and their applications. The course is designed to equip students with the knowledge and skills necessary for future academic and professional success.

Mahy Kavei, Chemistry Teacher

Aims

The primary goals of this course are to:

- Develop students' knowledge and understanding of physical concepts.
- Enhance students' experimental skills and ability to conduct scientific investigations.
- Foster a positive attitude towards physics and encourage enjoyment of the subject.
- Prepare students for further study in physics or related fields.
- Enable students to apply physical knowledge and skills to real-world problems.
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What The Student Will Learn

Course Overview

IGCSE Chemistry is a comprehensive course that covers a wide range of chemical topics. It is designed to provide a strong foundation for further study in chemistry or other subjects. The course emphasises experimental work, problem-solving, and the ability to communicate scientific ideas effectively.



Core Topics

All students will study the following core topics:

1. States of Matter:

- a. Particle theory
- b. Properties of solids, liquids, and gases
- c. Changes of state

2. Atomic Structure:

- a. Atoms, elements, and compounds
- b. The structure of the atom
- c. The Periodic Table
- d. Ions & Ionic Bonds
- e. Simple Molecules & Covalent Bonds
- f. Giant Structures

3. Stoichiometry:

- a. Formulae & Relative Masses
- b. The Mole & the Avogadro Constant

4. Electrochemistry:

- a. Electrolysis
- b. Applications of Electrolysis

5. Chemical Energetics:

- a. Exothermic & Endothermic Reactions

6. Chemical Reaction:

- a. Chemical Change & Rate of Reaction
- b. Reversible Reactions & Equilibrium
- c. Redox

7. Acids, Bases & Salts:

- a. The Characteristic Properties of Acids & Bases
- b. Preparation of Salts

8. The Periodic Table:

- a. The Periodic Table & Trends
- b. Group Properties & Trends

9. Metals:

- a. Properties, Uses & Alloys of Metals
- b. Reactivity Series & Corrosion of Metals
- c. Extraction of Metals



10. Chemistry of the Environment

- a. Water & Water Pollution
- b. Air Quality & Climate

11. Organic Chemistry

- a. Formulae, Functional Groups & Terminology
- b. Organic Families
- c. Polymers

12. Experimental Techniques & Chemical Analysis

- a. Experimental Techniques
- b. Separation & Purification
- c. Identification of Ions & Gases

Additional Topics (Option A or B)

Students will choose one of the following additional topics:

Option A: Practical Chemistry:

- Experimental techniques
- Data analysis
- Error analysis

Option B: Industrial Chemistry:

- The chemical industry
- Production of important chemicals
- Sustainability in the chemical industry

Assessment

Students will be assessed through written examinations at the end of Year 11. The examinations will consist of two papers. Paper 1 will assess knowledge and understanding of the core topics, while Paper 2 will focus on experimental skills and applications.



Additional Resources and Support

LWSF will provide students with a variety of resources and support to help them succeed in their IGCSE Chemistry studies. These may include:

- Textbook resources
- Online learning platforms
- Regular laboratory work
- Independent research and self-study
- Opportunities for additional support as appropriate

Evaluation and Review

The curriculum will be reviewed annually to ensure its effectiveness and alignment with the boards' defined curriculum. Feedback from students, teachers, and parents will be considered in the review process.

Updated August 2024

Next review: August 2025