



TRAILL
INTERNATIONAL SCHOOL

Chemistry

IGCSE Chemistry



YEAR 9 OPTION BOOKLET: 2024-2026

Subject: Chemistry

Course Title: Cambridge IGCSE Chemistry - 0620

Why study this subject: Chemistry is the study of matter and energy and the interactions between them. Chemistry is fundamental and is everywhere in the world around you. It's in the food you eat, the clothes you wear, the life-saving medicines we may need to take and the products you use. Chemistry helps students to understand the world around them. By studying Chemistry a student will develop an analytical approach to problem solving and a practical grasp of how materials are made and modified. Taken together with either one or both of Biology and Physics this course gives students a thorough understanding of the world around us.

Aims of this subject:

To provide a worthwhile educational experience for all candidates, through well designed studies of experimental and practical science, whether or not they go on to study science beyond this level

To enable candidates to acquire sufficient understanding and knowledge to:

- Become confident citizens in a technological world, to take or develop an informed interest in scientific matters
- Recognise the usefulness, and limitations, of scientific method and to appreciate its applicability in other disciplines and in everyday life
- Be suitably prepared for studies beyond the IGCSE in pure sciences, in applied sciences or in science-dependent vocational courses

To develop attitudes relevant to Chemistry such as:

- Concern for accuracy and precision, objectivity, integrity, enquiry, initiative and inventiveness
- To stimulate interest in, and care for, the environment

To promote an awareness that:

- Scientific theories and methods have developed, and continue to do so, as a result of the co-operative activities of groups and individuals
- The study and practice of science is subject to social, economic, technological, ethical and cultural influences and limitations
- The applications of science may be both beneficial and detrimental to the individual, the community and the environment
- Science transcends national boundaries and that the language of science, correctly and rigorously applied, is universal

Assessment at a glance:

All candidates must enter for three papers.

Core students sit Papers 1,3 and 6

Extended students sit Papers 2,4 and 6

Paper 1 (CORE) 45 minutes

A multiple-choice paper consisting of 40 items of the four-choice type. Questions will be based on the Core syllabus content.

This paper will be weighted at 30% of the final total mark.

Paper 2 (EXTENDED) 45 minutes

A multiple-choice paper consisting of 40 items of the four-choice type.

Questions will be based on the Extended syllabus content (Core and Supplement).

This paper will be weighted at 30% of the final total mark.

Paper 3 (CORE) 1 hour 15 minutes

A written paper consisting of short-answer and structured questions. Questions will be based on the Core syllabus content.

80 marks

This paper will be weighted at 50% of the final total mark.

Paper 4 (EXTENDED) 1 hour 15 minutes

A written paper consisting of short-answer and structured questions.

Questions will be based on the Extended syllabus content (Core and Supplement).

80 marks

This paper will be weighted at 50% of the final total mark.

Paper 6 (ALL STUDENTS) 1 hour

Alternative to Practical Test

The paper is structured to assess grade ranges

A*–G. 40 marks

This paper will be weighted at 20% of the final total mark.

Curriculum content:

All students study the following topics.

1. The particulate nature of matter
2. Experimental techniques
3. Atoms, elements and compounds
4. Stoichiometry
5. Electricity and chemistry
6. Chemical energetics
7. Chemical reactions
8. Acids, bases and salts
9. The Periodic Table
10. Metals
11. Air and water
12. Sulfur
13. Carbonates
14. Organic chemistry

Practical basis of Science:

All scientific subjects are, by their nature, experimental. So it is important that all students learn those practical skills that allow them to perform investigations into the topics of study. It is only through a program of theoretical study underpinned by rigorous experimental practice that students will be properly prepared for further study in the Sciences at AS or A-level and into University beyond that.

This approach will not only provide opportunities for developing experimental skills but will increase the appeal of the course, and the enjoyment of the subject. Practical work helps learners to acquire a secure understanding of the syllabus topics and to appreciate how scientific theories are developed and tested. It also promotes important scientific attitudes such as objectivity, integrity, co-operation, inquiry and inventiveness.

Experimental skills and investigations

The Cambridge exam board states that candidates should be able to:

1. Demonstrate knowledge of how to safely use techniques, apparatus and materials (including following a sequence of instructions where appropriate)
2. Plan experiments and investigations
3. Make and record observations, measurements and estimates
4. Interpret and evaluate experimental observations and data
5. Evaluate methods and suggest possible improvements.