

Chemistry

Curriculum Structure

The curriculum consists of compulsory and elective parts. The compulsory part covers a range of content that enables students to develop an understanding of fundamental chemistry principles and concepts, and scientific process skills. Topics such as “atomic structure”, “bonding, structures and properties”, “metals and non-metals”, “periodicity”, “mole and stoichiometry”, “acids and bases”, “electrochemistry”, “chemistry of carbon compounds”, “chemical energetics”, “chemical kinetics” and “chemical equilibrium” are included. Please refer to topics I to XII for details.

To cater for the diverse interests, abilities and needs of students, an elective part is included in the curriculum. The elective part aims to provide an in-depth treatment of some of the compulsory topics, or an extension of certain areas of study. The elective part consists of three topics: “Industrial Chemistry”, “Materials Chemistry” and “Analytical Chemistry”. In addition, “green chemistry” is introduced in this part. Please refer to topics XIII to XV for details.

To facilitate the integration of knowledge and skills, students are required to conduct an investigative study relevant to the curriculum. A proportion of the total lesson time is allocated to this study. Please refer to Topic XVI “Investigative Study in Chemistry” for details.

The content of the curriculum is divided into 15 topics and an investigative study. However, the concepts and principles of chemistry are interrelated and should not be confined by any artificial boundaries between topics. The order of presentation of the topics in this chapter can be regarded as a possible teaching sequence, but teachers should adopt sequences that best suit their chosen teaching approaches. For instance, one topic can be integrated with a later one; some parts of a certain topic may be covered in advance if they fit well in a chosen context. Please refer to Suggested Learning and Teaching Sequences depicted in Chapter 3 for details.

Suggested Time Allocation

Compulsory Part (Total 182 hours)

- I. Planet earth* (6 hours)
- II. Microscopic world I* (21 hours)
- III. Metals* (22 hours)
- IV. Acids and bases* (25 hours)
- V. Fossil fuels and carbon compounds* (18 hours)
- VI. Microscopic world II (8 hours)
- VII. Redox reactions, chemical cells and electrolysis* (23 hours)
- VIII. Chemical reactions and energy* (7 hours)
- IX. Rate of reaction (9 hours)
- X. Chemical equilibrium (10 hours)
- XI. Chemistry of carbon compounds (25 hours)
- XII. Patterns in the chemical world (8 hours)

Elective Part (Total 48 hours, select any 2 out of 3)

- XIII. Industrial chemistry (24 hours)
- XIV. Materials chemistry (24 hours)
- XV. Analytical chemistry (24 hours)

Investigative Study (20 hours)

- XVI. Investigative study in chemistry

MODE OF ASSESSMENT

The public assessment of Chemistry consists of a public examination component and a school-based assessment component as outlined in the following table:

Component		Weighting	Duration
Public Examination	Paper 1 Compulsory part of the curriculum	60%	2 hours 30 minutes
	Paper 2 Elective part of the curriculum	20%	1 hour
School-based Assessment (SBA)		20%	

Public Examination

Paper 1 comprises two sections: A and B. Section A consists of multiple-choice questions and carries 18% of the subject mark. Section B includes short questions, structured questions and essay questions, and carries 42% of the subject mark. In each of the sections A and B, Part I will set questions mainly on topics I to VIII of the curriculum, while Part II mainly on topics IX to XII. Candidates have to attempt **all** questions in this paper.

Paper 2 consists of structured questions and carries 20% of the subject mark. Candidates are required to answer the questions on the 2 electives selected.

Access School TEAMS – S3 Career for Details