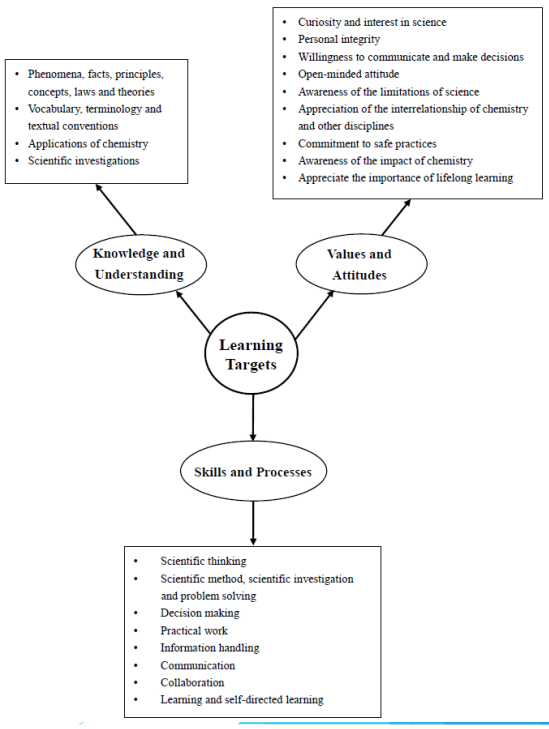
# Chemistry

## [applicable to the 2029 HKDSE Examination and onwards]

Science Education Section
Innovation Technology Education Division
Education Bureau

# Curriculum Aims

- **To provide chemistry-related learning experiences for students**
  - **construct and apply knowledge of chemistry, perform chemistry experiments, etc.**
- **To develop students' scientific literacy and key skills**
  - **skills for scientific inquiry, problem-solving skill, creative thinking skill, etc.**
- **To prepare students for further studies or careers in fields related to chemistry/STEAM**



# Curriculum Framework

- **Compulsory Part (Total 182 hours)**

I. Planet earth
II. Microscopic world I
III. Metals
IV. Acids and bases
V. Fossil fuels and carbon compounds
VI. Microscopic world II
VII. Redox reactions, chemical cells and electrolysis
VIII. Chemical reactions and energy
IX. Rate of reaction
X. Chemical equilibrium
XI. Chemistry of carbon compounds
XII. Patterns in the chemical world

- **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 (Total 20 hours)**

XVI. Investigative study in chemistry (20 hours)

# Assessment Mode

- **Public Assessment**

| 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% | |

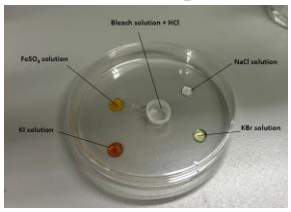
- **School-based Assessment (About experiments and skills on practical work)**

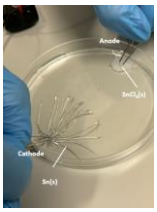
| | Minimum number of assessments* | Weighting in subject |
|---|---|---|
| S5 | 2 | 10% |
| S6 | 2 | 10% |

* Assessments include volumetric analysis, qualitative analysis and other experiments / investigative study

# Examples for Learning and Teaching Resources

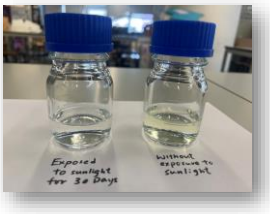
- **Practical activities / demonstrations**
  - **Microscale experiments**

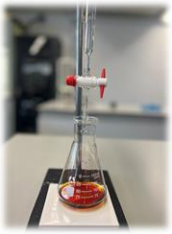



  - **Qualitative analyses**

- **Investigative study in chemistry**
  - **Compare the $OCl^-$(aq) concentration in bleach samples with and without sunlight exposure**



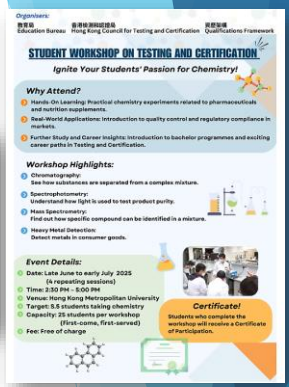



Learning and Teaching Resources of Chemistry

# Examples of Student Learning Activities

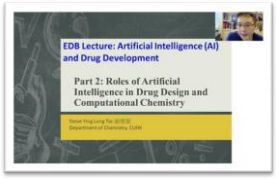
## Science in Action: Experiential Learning Activities on Testing and Certification Industry for Secondary Students

- Co-organised by EDB, HK Qualifications Framework, and HK Council for Testing and Certification
  - Student Workshop on Testing & Certification
  - School Talk: Testing & Certification in Our Daily Living
  - Visit to Laboratories/Organisations of Testing & Certification Industry




## The "Chemists Online" Self-study Award Scheme

- The online seminars were delivered by experts from local universities and chemistry related trades
- The seminars cover a wide range of chemistry topics, linking with the Chemistry curriculum while extending into the latest advances in the field




| Award | Number of seminars completed within the designated period |
|---|---|
| Bronze | 3 |
| Silver | 6 |
| Gold | 9 |
| Platinum | 12 |
| Diamond | 18 |

Student Educational Activities and Events

# Pathways for Further Studies

## Chemistry-related Bachelor Degree / Associate Degree Programmes

**Bachelor Degree Programmes (examples)**

- **Chemistry**
- **Environmental Science**
- **Pharmacy**
- **Chemical Engineering**
- **Food and Nutritional Sciences**
- **Energy Engineering and Environmental Management**
- **Food Safety and Technology**
- **Medicine and Surgery**
- **Nursing**

**Associate Degree Programmes (examples)**

- **Chemistry and Testing Sciences**
- **Chemistry and Materials Science**
- **Chemical Technology**
- **Environmental Science and Management**
- **Chemistry and Life Sciences**
- **Chemistry and Environmental Science**

# Reference


- Curriculum and Assessment Guide of Chemistry (Secondary 4 - 6)

https://www.edb.gov.hk/attachment/en/curriculum-development/kla/science-edu/Chem_C_and_A_Guide_updated_Eng_22082018.pdf


- For enquiries, please contact respective subject teacher(s) or class teacher(s) at school

# Thank you