

COMBINED SCIENCE

INTRODUCTION

The public assessment of this subject is based on the Curriculum and Assessment Guide (Secondary 4-6) Combined Science jointly prepared by the Curriculum Development Council and the Hong Kong Examinations and Assessment Authority. Candidates should refer to the section on ‘Curriculum Framework’ in this Guide for the knowledge, understanding, skills and attitudes they are required to demonstrate in the assessment. Candidates are expected to have a general knowledge of the materials contained in the Science Curriculum (Secondary 1-3). The mathematical skills required in the assessment are mainly based on those covered in the Compulsory Part of the Hong Kong Diploma of Secondary Education Mathematics Curriculum.

The public assessment of Combined Science consists of three parts: Physics, Chemistry and Biology. Candidates should choose **any two parts** to form the basis of their assessment according to the curriculum they follow. As a result, there are three options: Combined Science (Physics, Chemistry), Combined Science (Biology, Physics), and Combined Science (Chemistry, Biology).

PART 1: PHYSICS

ASSESSMENT OBJECTIVES

The objectives of the public assessment of this part are to evaluate candidates’ ability to:

1. recall and show understanding of the facts, concepts, models and principles of physics, and the relationships between different topic areas in the curriculum framework;
2. apply knowledge, concepts and principles of physics to explain phenomena and observations, and to solve problems;
3. show an understanding of the use of apparatus in performing experiments;
4. demonstrate an understanding of the method used in the study of physics;
5. present data in various forms, such as tables, graphs, charts, diagrams, and transpose them from one form into another;
6. analyse and interpret data, and draw appropriate conclusions;
7. show an understanding of the treatment of errors;
8. select, organise, and communicate information clearly, precisely and logically;
9. demonstrate understanding of the applications of physics to daily life and its contributions to the modern world;
10. show awareness of the ethical, moral, social, economic and technological implications of physics, and critically evaluate physics-related issues; and
11. make suggestions, choices and judgments based on the examination of evidence using knowledge and principles of physics.

MODE OF ASSESSMENT

The public assessment of Combined Science (Physics part) consists of a public examination component and a school-based assessment component as outlined in the following table:

Component		Weighting	Duration
Public Examination	Questions set on the physics part of the curriculum	40%	1 hour 40 minutes
School-based Assessment (SBA)		10%	

PUBLIC EXAMINATION

The examination paper comprises two sections: A and B. Section A consists of multiple-choice questions and carries 14% of the subject mark. Section B includes short questions, structured questions and an essay question, and it carries 26% of the subject mark. Candidates have to attempt **all** questions in this paper.

SCHOOL-BASED ASSESSMENT (SBA)

School-based assessment (SBA) is compulsory for **all** school candidates. Candidates will be assessed by their teachers on their performance of a wide range of skills involved in practical work throughout S5 and S6. Candidates are required to perform a stipulated amount of practical work. The work should be integrated closely with the curriculum and form a part of the normal learning and teaching process.

The table below summarises the minimum number of assessments and the percentage weighting in subject required in S5 and S6 for the SBA:

	Minimum number of assessments
S5	1 (5%)
S6	1 (5%)

For monitoring and authentication purposes, candidates are required to keep good custody of all their work in SBA until the publication of the HKDSE examination results.

Private candidates need not complete the SBA component. Their subject result will be based entirely on the public examination result.

The detailed requirements, regulations, assessment criteria, guidelines and methods of assessment are provided in the SBA Handbook for HKDSE Physics and Combined Science (Physics part) published by the Hong Kong Examinations and Assessment Authority.

PART 2: CHEMISTRY

ASSESSMENT OBJECTIVES

The assessment objectives of this part are to evaluate the abilities of candidates to:

1. recall and show understanding of chemical facts, patterns, principles, terminology and conventions;
2. show an understanding of the use of apparatus and materials in performing experiments;
3. handle materials, manipulate apparatus, carry out experiments safely and make accurate observations;
4. demonstrate an understanding of the method used in chemical investigation;
5. analyse and interpret data from various sources, and draw relevant conclusions;
6. manipulate and translate chemical data and to perform calculations;
7. apply chemical knowledge to explain observations and to solve problems which may involve unfamiliar situations;
8. select and organise scientific information from appropriate sources and to communicate this information in an appropriate and logical manner;
9. understand and evaluate the social, economic, environmental and technological implications of the applications of chemistry; and
10. make decisions based on the examination of evidence and arguments.

MODE OF ASSESSMENT

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

Component		Weighting	Duration
Public Examination	Questions set on the chemistry part of the curriculum	40%	1 hour 40 minutes
School-based Assessment (SBA)		10%	

PUBLIC EXAMINATION

The examination paper comprises two sections: A and B. Section A consists of multiple-choice questions and carries 12% of the subject mark. Section B includes short questions, structured questions and an essay question, and it carries 28% of the subject mark. Candidates have to attempt **all** questions in this paper.

SCHOOL-BASED ASSESSMENT (SBA)

School-based assessment (SBA) is compulsory for **all** school candidates. Candidates will be assessed by their teachers on their performance of a wide range of skills involved in practical work throughout S5 and S6. Candidates are required to perform a stipulated amount of practical work, which may include designing experiments, reporting and interpreting experimental results, etc. The work should be integrated closely with the curriculum and form a part of the normal learning and teaching process.

The table below summarises the minimum number of assessments and the percentage weighting in subject required in S5 and S6 for the SBA:

	Minimum number of assessments*	Weighting in subject
S5	1	5%
S6	1	5%

* Over the two years of S5 and S6, there should be at least one assessment for Volumetric Analysis (VA) and one assessment for Other Experiments (EXPT).

For monitoring and authentication purposes, candidates are required to keep good custody of all their work in SBA until the publication of the HKDSE examination results.

Private candidates need not complete the SBA component. Their subject result will be based entirely on their public examination results.

The detailed requirements, regulations, assessment criteria, guidelines and methods of assessment are provided in the SBA Handbook for HKDSE Chemistry and Combined Science (Chemistry part) published by the Hong Kong Examinations and Assessment Authority.

PART 3: BIOLOGY

ASSESSMENT OBJECTIVES

The assessment objectives of this part are to evaluate candidates' abilities to:

1. recall and show understanding of facts, concepts and principles of biology, and the relationships between different topic areas in the curriculum framework;
2. apply biological knowledge, concepts and principles to explain phenomena and observations, and to solve problems;
3. formulate working hypotheses, and plan and perform tests for them;
4. demonstrate practical skills related to the study of biology;

5. present data in various forms, such as tables, graphs, charts, drawings, diagrams, and transpose them from one form into another;
6. analyse and interpret both numerical and non-numerical data in forms such as continuous prose, diagrams, photographs, charts and graphs – and make logical deductions and inferences and draw appropriate conclusions;
7. evaluate evidence and detect errors;
8. generate ideas; select, synthesise and communicate ideas and information clearly, precisely and logically;
9. demonstrate understanding of the applications of biology to daily life and its contributions to the modern world;
10. show awareness of the ethical, moral, social, economic and technological implications of biology, and critically evaluate biology-related issues; and
11. make suggestions, choices and judgments about issues affecting the individual, society and the environment.

MODE OF ASSESSMENT

The public assessment of Combined Science (Biology part) consists of a public examination component and a school-based assessment component as outlined in the following table:

Component		Weighting	Duration
Public Examination	Questions set on the biology part of the curriculum	40%	1 hour 40 minutes
School-based Assessment (SBA)		10%	

PUBLIC EXAMINATION

The examination paper comprises two sections: A and B. Section A consists of multiple-choice questions and carries 12% of the subject mark. Section B includes short questions, structured questions and an essay question, and it carries 28% of the subject mark. Candidates have to attempt **all** questions in this paper.

SCHOOL-BASED ASSESSMENT (SBA)

School-based assessment (SBA) is compulsory for **all** school candidates. In the SBA of Combined Science (Biology part), candidates are required to perform a stipulated amount of practical work, which may include scientific investigations, laboratory work, and fieldwork, etc. In S5 and S6, they will be assessed in two ability areas: practical skills and abilities (A) and reporting of investigative work (B). Ability area A carries 4% of the subject mark, while ability area B carries 6% of the mark.

The table below summarises the percentage weighting and the minimum number of assessments required in S5 and S6 for the different areas of the SBA:

		Ability area A (Practical skills and abilities)	Ability area B (Reporting of investigative work)
Weighting in subject		4%	6%
Minimum number of assessments	S5	1	1
	S6		

For monitoring and authentication purposes, candidates are required to keep good custody of all their work in SBA until the publication of the HKDSE examination results.

Private candidates need not complete the SBA component. Their subject result will be based entirely on their public examination results.

The detailed requirements, regulations, assessment criteria, guidelines and methods of assessment are provided in the SBA Handbook for HKDSE Biology and Combined Science (Biology part) published by the Hong Kong Examinations and Assessment Authority.