

PHYSICS

INTRODUCTION

The public assessment of this subject is based on the Curriculum and Assessment Guide (Secondary 4 to 6) Physics jointly prepared by the Curriculum Development Council and the Hong Kong Examinations and Assessment Authority. Candidates have to 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 will not exceed those covered in the Compulsory Part of the Hong Kong Diploma of Secondary Education Mathematics Curriculum.

ASSESSMENT OBJECTIVES

The objectives of the public assessment of Physics 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, organize, 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 Physics 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 Questions set on Compulsory Part	60%	2 hours 30 minutes
	Paper 2 Questions set on Elective Part	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 21% of the subject mark. Section B includes short questions, structured questions and an essay question, and it carries 39% of the subject mark. Candidates have to attempt **all** questions in paper 1.

Paper 2 contains multiple-choice questions and structured questions set on the four elective topics of the curriculum, and each carries 10% of the subject mark. Candidates are to attempt questions from any **two** of the four electives.

SCHOOL-BASED ASSESSMENT (SBA)

School-based assessment (SBA) is compulsory for **all** school candidates. In 2012 HKDSE, candidates will be assessed by their teachers on their performance of a wide range of skills involved in practical related tasks throughout S5 and S6.

Practical related tasks:

Practical related tasks here refer to practical work and investigative study in physics. In S5 and S6, candidates' performance in practical work and reporting of practical work will be assessed, carrying 20% of the subject mark. The tasks will involve:

- (a) organizing and performing practical work, including making use of suitable apparatus and equipment, and demonstrating the candidate has the appropriate manipulative skills for carrying out the work;
- (b) making accurate observations and measurements;
- (c) recording and presenting results in an appropriate form;
- (d) interpreting and discussing results, and drawing appropriate conclusions.

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

Assessment content		Practical related tasks	
		Experiment	
Weighting in subject		20%	
Minimum number of assessments	S5	1	3
	S6	1	

For monitoring and authentication purposes, candidates are required to keep good custody of all their work completed for 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 will be provided in the SBA Handbook for HKDSE Physics and Combined Science (Physics part) published by the Hong Kong Examinations and Assessment Authority.

Starting from the 2014 HKDSE, candidates are also required to design and conduct an investigative study with a view to solving an authentic problem. They are expected to make use of their knowledge and understanding of physics in performing such an investigative study, through which their generic skills, practical skills, process skills and reporting skills, etc. will be assessed.

Non-practical related tasks:

Starting from the 2014 HKDSE, candidates will also be assessed on non-practical related tasks in the SBA. Non-practical related tasks refer to assignments that constitute part of the learning activities provided to candidates. They should be aligned closely with the curriculum. Examples of such tasks include: information searching and report writing, site-visit reports, designing posters/pamphlets/webpages, writing articles, building models or developing multimedia artefacts. Besides their understanding and application of knowledge and concepts of physics, candidates' generic skills (creativity, critical thinking skills, communication skills and problem-solving skills) will be assessed.

The implementation schedule for SBA is as follows:

Year of examination	Implementation of SBA
2012 & 2013	Schools are required to submit SBA marks for the practical related component only. The mark of this component will contribute to 20% of the final subject mark.
2014 and thereafter	Schools will be required to submit SBA marks for both the practical and non-practical related components. The SBA marks for practical related tasks will constitute 18% of the final subject mark, and those for non-practical related tasks 2% of the final subject mark.