



**CARIBBEAN EXAMINATIONS COUNCIL
CARIBBEAN SECONDARY CERTIFICATE OF EDUCATION®
GUIDELINES FOR ON-SITE MODERATION
SCIENCES**

INTRODUCTION

The School-Based Assessment (SBA) is an integral part of student assessment, and it is intended to assist students in developing knowledge, skills and attributes that are critical to the subject. SBAs should be done as part of normal coursework, and students should be marked only after they have been taught the skills and given sufficient opportunity to develop them.

For Biology and Integrated Science, each skill must be assessed at least two times except Drawing. For Chemistry and Physics, each skill must be assessed at least two times except the PD and AI skills which should be assessed at least three times.

No more than three skills should be assessed in any one laboratory practical exercise. Tables 1, 2 and 3 outline the number of times each skill is to be assessed. Feedback should be given to teacher so that errors or inconsistencies are not repeated in the practical exercises that follow.

**TABLE 1:
SBA SKILLS TO BE ASSESSED FOR CXC MODERATION – BIOLOGY**

Profile	Skills	Year 1		Year 2	
		Number of Times Skills to be Assessed	Marks	Number of Times Skills to be Assessed	Marks
XS	Manipulation Measurement	1	10	1	10
	Observation, Recording, Reporting	1	10	1	10
	Planning and Designing	1	10	1	10*
	Drawing	1	10	-	-
UK	Analysis and Interpretation	1	10	1	10*
	Total	5	50	4	40

* the marks for the skills are the marks from the investigative project from either Biology, Chemistry or Physics.



**TABLE 2:
SBA SKILLS TO BE ASSESSED FOR CXC MODERATION – INTEGRATED SCIENCE**

Profile	Skills	Year 1		Year 2	
		Number of Times Skills to be Assessed	Marks	Number of Times Skills to be Assessed	Marks
XS	Manipulation Measurement	1	10	1	10
	Observation, Recording, Reporting	1	10	1	10
	Planning and Designing	1	10	1	10*
	Drawing	1	10	-	-
UK	Analysis and Interpretation	1	10	1	20*
	Total	5	50	4	50

* the marks for the skills are the marks from the investigative project.

**TABLE 3:
SBA SKILLS TO BE ASSESSED FOR CXC MODERATION – CHEMISTRY AND PHYSICS**

Profile	Skills	Year 1		Year 2	
		Number of Times Skills to be Assessed	Marks	Number of Times Skills to be Assessed	Marks
XS	Manipulation Measurement	1	10	1	10
	Observation, Recording, Reporting	1	10	1	10
	Planning and Designing	2	20	1	10*
UK	Analysis and Interpretation	2	20	1	20*
	Total	6	60	4	50

* the marks for the skills are the marks from the investigative project from either Chemistry, Physics, or Biology.



THE MODERATION PROCESS

Purpose of Moderating School-Based Assessment

1. **To coach the persons involved in the process**
2. To ensure consistency of the marking – from candidate to candidate within a school; from teacher to teacher within a school; from teacher to teacher across schools
3. To ensure that the standards set by the Caribbean Examinations Council (CXC) are understood and implemented; thus, providing accountability
4. To provide guidelines to all involved in the marking process
5. To assist teachers in the implementation of the curriculum
6. To contribute to the reliability and validity of the assessment product and process



Background

1. Moderators are selected by the respective Ministries of Education based on guidelines set by CXC. These guidelines include academic qualifications, experience, knowledge of the curriculum and expertise.
2. CXC issues contracts to the Moderators via the Local Registrar.
3. The moderation exercise should be completed by the end of April in the year of the examination.
4. The books of Fifth form candidates are to be moderated.
5. Moderated marks and a moderation report are to be sent to CXC via the Local Registrar.
6. Each year Moderators should meet to standardize on the mark scheme, under the guidance of a Chief Moderator/Curriculum Officer/Education Officer. Consensus must be arrived at, after discussion. Standardization should be done as follows:
 - A sample of students' laboratory practical exercises is selected based on a range of marks.
 - All Moderators mark a few of the same tasks and discuss the marks awarded. Again, consensus must be arrived at, after discussion.

Procedure

Each moderator is expected to visit a centre **once**.

When assigned to a centre, the Moderator should

1. Contact the teacher through the Principal and/or Head of Department
2. Agree with the teacher on the date and time for each visit to the school
 - Ask the teacher to indicate how the lab was conducted in the content page of the lab book (face to face or virtual). For virtual labs ask the teacher to have evidence that the lab was conducted (evidences can be in the form of photos or recordings). The evidence must be saved to a computer in case there are issues with internet connectivity.
 - **Remind the teacher that if they are using soft copies of the laboratory books, the soft copies book should maintain the format stipulated by CXC. Additionally,**
 - All laboratory activities undertaken by a candidate should be compiled as one document.
 - Graphs and drawings must be done by hand and a picture inserted in the soft copy.
 - The activities should be marked with visible feedback from teachers and saved as pdf documents
 - The laboratory books for ALL candidates in the centre should be saved to a computer in case there are issues with internet connectivity.
 - A folder should be created for the sample which was generated by the ORS.



3. Remind the teacher to have available his/her mark sheet and the laboratory books of **all** the candidates.
4. Remind the teacher to complete the Moderation of SBA form for the subject, **FRM/EDPD/031 or 054, 107 or 147**, for the five candidates selected in the ORS.

Note: The moderator is required to provide guidelines/assistance/coaching to the teacher, NEVER to demean or be punitive.

The Visit – Moderation of Fifth Form work

During the visit, the moderator is also expected to

- (i) Note positive and negative points (inconsistencies) about the mark schemes.
- (ii) Re-mark the skills (ORR, PD, AI and DR) in the laboratory books of the five candidates.
- (iii) Complete the Moderation of SBA Form, **FRM/EDPD/031 or 054, 107 or 147**.
- (iv) Complete the External Moderator's Report Form, **FRM/EDPD/0296 or 0297 or 0298 or 534**.
- (v) Complete the Moderation Feedback Report Form, **FRM/EDPD/030 or 106**.
- (vi) Provide feedback to the teacher during an informative cordial discussion.
- (vii) Ensure that the forms are signed by the relevant persons.
- (viii) Submit the following completed forms to the Local Registrar:

FRM/EDPD/031 or 054 or 147 or 107 – Moderation of School-Based Assessment

FRM/EDPD/030 or 106 – Moderation Feedback Report on School-Based Assessment

FRM/EDPD/0296 or 0297 or 0298 or 534 – External Moderator's Report

Points to note

1. **This is NOT a punitive exercise but an exercise to improve the standard of science in the school, and by extension, in the Caribbean region.**
2. This exercise is Centre moderation – there must be cooperation among the teachers.
3. For the practical laboratory exercises component, apply the teacher's mark scheme as far as possible. If the teacher's mark scheme is not appropriate (inconsistent with syllabus guidelines) or not provided, apply a mark scheme agreed to by the teacher and moderator.
4. For the investigative project component, the mark scheme provided in the syllabus must be strictly followed in order to ensure consistency in the award of marks for ALL students.
5. **The MM skill is not to be moderated. Teachers' marks for MM are to be recorded.**
6. Where there is a need to assist teachers (outside of the moderation exercise) please let the Education /Curriculum Officer know.



7. Irregularities must be reported to CXC on the External Moderator's report form. If there is need, please submit the laboratory books to CXC through the Local Registrar, clearly outlining the irregularity.



REFERENCE DOCUMENTS

Form	Hyperlink
FRM/EDPD/031	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Biology\Moderation of SBA.pdf
FRM/EDPD/054	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Chemistry\Moderation of SBA.pdf
FRM/EDPD/107	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Integrated Science\Moderation of SBA.pdf
FRM/EDPD/147	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Physics\CSEC Physics Moderation of SBA.pdf
FRM/EDPD/296	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Biology\External Moderator's Report.pdf
FRM/EDPD/297	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Chemistry\External Moderator's Report.pdf
FRM/EDPD/298	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Physics\CSEC Physics External Moderator's Report.pdf
FRM/EDPD/534	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Integrated Science\External Moderator's Report.pdf
FRM/EDPD/030	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Biology\Moderation Feedback Report.pdf
FRM/EDPD/053	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Chemistry\Moderation Feedback Report.pdf
FRM/EDPD/106	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Integrated Science\Moderation Feedback Report.pdf
FRM/EDPD/146	..\500 - INFORMATION AND TECHNOLOGY\Forms\CSEC SBA FORMS\Physics\CSEC Physics Moderation Feedback Report on SBA.pdf



CRITERIA FOR ASSESSING INVESTIGATIVE SKILLS

A. PLANNING AND DESIGN

HYPOTHESIS		2
- Clearly stated	1	
- Testable	1	
AIM		1
- Related to hypothesis	1	
MATERIALS AND APPARATUS		1
- Appropriate materials and apparatus	1	
METHOD		2
- Suitable	1	
- At least one manipulated or responding variable	1	
CONTROLLED VARIABLE		1
- Controlled variable stated	1	
EXPECTED RESULTS		2
- Reasonable	1	
- Link with method	1	
ASSUMPTIONS/PRECAUTIONS/POSSIBLE SOURCES OF ERRORS		1
- Any one stated	1	
TOTAL		(10)

B. ANALYSIS AND INTERPRETATION

METHOD		1
- Linked to Proposal, Change of tense		
RESULTS		4
- Correct formulae and equations:		
Accurate (2)	2	
Acceptable (1)		
- Accuracy of data:		
Accurate (2)	2	
Acceptable (1)		
DISCUSSION		5
- Explanation	2	



Development of points:

Thorough (2)

Partial(1)

- Interpretation

2

Fully supported by data (2)

Partially supported by data (1)

- Trends

1

Stated

LIMITATIONS

3

-Sources of error identified

1

-Precautions stated

1

-Limitation stated

1

REFLECTIONS

5

- Relevance between the experiment and real life (self, society or environment) 1

- Impact of knowledge gain from experiment on self

1

- Justification for any adjustment made during experiment

1

- Communication of information

2

(Use of appropriate scientific language, grammar and clarity of expression all of the time (2); some of the time (1))

CONCLUSION

2

- Stated

1

- Related to the aim

1

TOTAL

(20)*

***weighted down to 10 for CSEC Biology ONLY**

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