



Assessment Criteria - Sixth grade

Criterion A: One World

Maximum 6

Students should understand the interdependence of science and society. Students are expected to discuss how science is applied and used to solve specific problems in life and society. Students should be given the opportunity to explore local and global scientific issues and evaluate the interaction between science and scientific developments with social, economic, political, environmental, cultural and ethical factors.

Assessment tasks should allow students to demonstrate their understanding of the role of science in society through the development of analysis and critical thinking. Suitable assessment tasks to assess this criterion include essays, case studies and research projects, but also debates and oral presentations.

Achievement level	Descriptor
0	The student does not reach a standard described by any of the descriptors given below.
1–2	The student describes how science is applied to addressing a specific local or global issue. The student states some of the benefits or limitations of science in addressing the issue.
3–4	The student describes how science is applied to addressing a specific local or global issue. The student describes some of the benefits or limitations of science in addressing the issue. The student describes how science and its applications interact with at least one of the following factors: social, economic, political, environmental, cultural and ethical.
5–6	The student explains how science is applied to addressing a specific local or global issue. The student explains some of the benefits and limitations of science in solving the issue. The student discusses how science and its applications interact with some of the following factors: social, economic, political, environmental, cultural and ethical.



Criterion B: Communication in Science

Maximum 6

Students should be able to demonstrate understanding when communicating scientific information. Students should use appropriate scientific language, a range of communication modes and the most appropriate communication format.

Suitable assessment tasks to assess this criterion include scientific investigation reports, research essays, case studies, interdisciplinary projects, and media presentations.

Depending on the tasks, students will be expected to acknowledge the sources of information and document these appropriately.

Achievement level	Descriptor
0	The student does not reach a standard described by any of the descriptors given below.
1–2	The student attempts to communicate scientific information using some scientific language . The student presents some of the information in an appropriate form using some symbolic or visual representation when appropriate. The student attempts to acknowledge sources of information but this is inaccurate .
3–4	The student communicates scientific information using scientific language . The student presents most of the information appropriately using symbolic and/or visual representation according to the task. The student acknowledges sources of information with occasional errors .
5–6	The student communicates scientific information effectively using scientific language correctly . The student presents all the information appropriately using symbolic and/or visual representation accurately according to the task. The student acknowledges sources of information appropriately .



Criterion C: Knowledge and Understanding of Science

Maximum 6

Students should show their understanding of the main scientific ideas and concepts of science, by applying these to solve problems in familiar and unfamiliar situations. Students should develop critical-thinking skills to analyse and evaluate scientific information.

Suitable assessment tasks to assess this criterion include complex questions in tests, critical analysis of case studies, research projects or media articles on scientific issues. Assessment tasks should provide opportunities for students to demonstrate their understanding by solving problems in familiar and unfamiliar situations, and by analysing and evaluating scientific information presented to them.

Achievement level	Descriptor
0	The student does not reach a standard described by any of the descriptors given below.
1–2	The student recalls some scientific ideas and concepts and applies these to solve simple problems .
3–4	The student explains scientific ideas and concepts and applies scientific understanding to solve problems in familiar situations . The student analyses scientific information by identifying parts, relationships or causes.
5–6	The student explains scientific ideas and concepts and applies scientific understanding to solve problems in familiar and unfamiliar situations . The student analyses and evaluates scientific information by identifying parts, relationships or causes. The student provides an explanation that shows understanding.

Unfamiliar situation: Refers to a problem/situation where the context or the application is modified to be considered unfamiliar for the student.



Criterion D: Scientific Inquiry

Maximum 6

Students are expected to design and carry out scientific investigations independently.

Students should be able to (i) state a problem that can be tested by an investigation; (ii) formulate a suitable hypothesis; (iii) identify and manipulate variables; (iv) plan an appropriate investigation including the method and materials.

Assessment tasks for scientific inquiry should provide students with the opportunity to design, plan and carry out scientific investigations independently. Suitable assessment tasks to assess this criterion include laboratory experiments and field studies.

Achievement level	Descriptor
0	The student does not reach a standard described by any of the descriptors given below.
1–2	The student attempts to define the purpose of the investigation and makes references to variables but these are incomplete or not fully developed..
3–4	The student defines the purpose of the investigation and provides an explanation/prediction but this is not fully developed. The student acknowledges some of the variables involved and describes how to manipulate them. The method suggested is partially complete
5–6	The student defines the purpose of the investigation, formulates a hypothesis . The student identifies the relevant variables and explains how to manipulate them. The method suggested is complete and includes appropriate materials/equipment.



Criterion E: Processing Data

Maximum 6

Processing data refers to enabling students to organize and process data. Students should be able to organize and transform data by numerical calculations into diagrammatic form (tables, graphs and charts) and draw and explain appropriate conclusions.

Suitable assessment tasks to assess this criterion include scientific investigations carried out by students, or by others, as well as laboratory reports and studies that provide students with raw data for further processing and analysis.

Achievement level	Descriptor
0	The student does not reach a standard described by any of the descriptors given below.
1–2	The student organizes and presents data using simple numerical or diagrammatic forms and draws an obvious conclusion .
3–4	The student organizes and transforms data into numerical and diagrammatic forms and presents it using appropriate communication modes . The student draws a conclusion consistent with the data .
5–6	The student organizes and transforms data into numerical and diagrammatic forms and presents it logically and clearly, using appropriate communication modes. The student describes trends, patterns or relationships in the data, draws a clear conclusion consistent with the data .



Criterion F: Attitudes in Science

Maximum 6

This criterion refers to encouraging students' attitudes of safety, respect and collaboration. Students are expected to:

- Carry out scientific investigations using materials and techniques skillfully and safely and showing respect for the living and non-living environment.
- Work effectively as a member of a team, collaborating, acknowledging and respecting the views of others as well as ensuring a safe working environment.

Evidence of performance of this criterion should be collected from the observation of students when working in science, individually and in groups. This criterion should be internally assessed but it is not externally moderated.

Achievement level

Descriptor

0	The student does not reach a standard described by any of the descriptors given below.
1–2	The student requires guidance and supervision when using laboratory equipment. The student can work safely and cooperate with others but may need reminders .
3–4	The student uses most equipment competently but might require occasional guidance; on most occasions pays attention to safety and works responsibly with the living and non-living environment. The student generally cooperates well with other students.
5–6	The student works largely independently ; uses equipment with precision and skill; pays close attention to safety and deals responsibly with the living and non-living environment. The student consistently works effectively as part of a team , collaborating with others and respecting their views.