

Criterion A: One World

This objective refers to enabling students to understand the interdependence between science and society. Students should be aware of the global dimension of science, as a universal activity with consequences for our lives and subject to social, economic, political, environmental, cultural and ethical factors

Achievement Level	Descriptor
0	<ul style="list-style-type: none"> ○ The student does not reach a standard described by any of the descriptors given below.
1-2	<ul style="list-style-type: none"> ○ Make basic comments on the ways in which science is applied and used to solve local and global problems ○ Give some examples of science and scientific applications. ○ Give basic comments on ways in which science affects life, society and the world
3-4	<ul style="list-style-type: none"> ○ Make basic comments on the ways in which science is applied and used to solve local and global problems ○ Give some examples of science and scientific applications and occasionally describe how these could affect people, societies and the environment. ○ Give some examples of ways in which science has played a part in the development of technology., and ways in which technology has played a part in the development of science. ○ Give some examples and basic comments on ways in which science affects life, society and the world.
5-6	<ul style="list-style-type: none"> ○ Make comments on the ways in which science is applied and used to solve local and global problems ○ Give examples of science and scientific applications and describe how these could affect people, societies and the environment. ○ Give examples of ways in which science has played a part in the development of technology, and ways in which technology has played a part in the development of science. ○ Understand that science is part of the world they live in by giving examples and commenting on ways in which science affects life, society and the world.

Criterion B: Communication in Science

This objective refers to enabling students to develop their communication skills in science. Students should be able to understand scientific information, such as data, ideas, arguments and investigations, and communicate it using appropriate scientific language in a variety of communication modes and formats as appropriate.

Achievement Level	Descriptor
0	<ul style="list-style-type: none"> ○ The student does not reach a standard described by any of the descriptors given below.
1-2	<ul style="list-style-type: none"> ○ Attempts to use communicate scientific information by using some scientific terminology, and/or symbolic representation ○ Attempts to provide scientific information using some modes of communication with guidance. ○ Attempts to present some of the scientific information in given formats (such as laboratory reports, experimental accounts, explanations, essays, expositions, audio visual presentations) with little accuracy. ○ Recognize occasionally the need for honesty when collecting and processing data information, and when acknowledging sources.
3-4	<ul style="list-style-type: none"> ○ Demonstrate understanding of most of the basic scientific language by using scientific terminology, units of measurement and symbolic representation ○ Provide scientific information using modes of communication: oral, written, visual representation (formulae, graphs, tables, diagrams) with guidance. ○ Present most of the scientific information in given formats (such as laboratory reports, experimental accounts, explanations, essays, expositions, audio visual presentations) with occasional errors. ○ Recognize occasionally the need for honesty when collecting and processing data information, and when acknowledging sources. ○ Use, with guidance, most of the information and communication technology applications (www, data loggers, spreadsheets or software for plotting graphs) to access, process and/or communicate information.
5-6	<ul style="list-style-type: none"> ○ Demonstrate understanding of basic scientific language by using appropriate scientific terminology, units of measurement and symbolic representation ○ Provide scientific information using appropriate modes of communication: oral, written, visual representation (formulae, graphs, tables, diagrams) with guidance. ○ Present scientific information in appropriate formats (such as laboratory reports, experimental accounts, explanations, essays, expositions, audio visual presentations) with guidance, and become familiar with the system used in the school to acknowledge sources ○ Recognize the need for honesty when collecting and processing data information, and when acknowledging sources. ○ Use, with guidance, information and communication technology applications (www, data loggers, spreadsheets or software for plotting graphs) to access, process and/or communicate information.

Criterion C: Knowledge and understanding of science

Students should acquire knowledge of scientific information taught throughout the subject. They should show their understanding of the main scientific ideas and concepts of science, by applying these to solve problems. Students should be aware that scientific models and theory may be modified in time.

Level of Achievement	Descriptor
0	<ul style="list-style-type: none"> ○ The student does not reach a standard described by any of the descriptors given.
1-2	<ul style="list-style-type: none"> ○ The student is able to recognize and recall some scientific information relevant to the units of work covered ○ The student attempts to identify few simple scientific components found in information from different sources.
3-4	<ul style="list-style-type: none"> ○ The student is able to recognize and recall most scientific information relevant to the units of work covered. ○ The student explains and applies simple scientific information to solve problems in familiar situations and, with guidance. ○ The student attempts to identify basic scientific components, relationships and patterns, both in experimental data and ideas. ○ The student attempts to identify some basic scientific components found in information from different sources (Internet, newspaper articles, television, scientific texts and publications) and attempts to give an opinion.
5-6	<ul style="list-style-type: none"> ○ The student is able to recognize and recall scientific information relevant to the units of work covered. ○ The student explains and applies simple scientific information to solve problems in familiar and, with guidance, in unfamiliar situations ○ The student is able to identify basic scientific components, relationships and patterns, both in experimental data and ideas. ○ The student identifies basic scientific components found in information from different sources (Internet, newspaper articles, television, scientific texts and publications), and is able to give an opinion justified by their knowledge and understanding of sciences.

Criterion D: Scientific Inquiry

This objective refers to enabling students to develop scientific inquiry skills to design and carry out scientific investigations. Students should be able to carry out a scientific investigation given a problem, a hypothesis and a suitable method. They should identify the variables that might affect the results of the experiment and attempt a way of controlling them, evaluate their method and communicate their investigation work in a lab report. Students are expected to carry out scientific investigations independently using lab materials and equipment adequately.

Level of Achievement	Descriptor
0	<ul style="list-style-type: none"> ○ The student does not reach a standard described by any of the descriptors given.
1–2	<ul style="list-style-type: none"> ○ The student attempts to recognize, with guidance, the problem or researches question to be tested by a scientific investigation but this is generally inaccurate. ○ The student attempts to ask questions of the type: What will happen if? Why does this happen when?, and become familiar with making predictions.
3–4	<ul style="list-style-type: none"> ○ The student attempts to recognize, with guidance, the problem or researches question to be tested by a scientific investigation ○ Occasionally the student is able to ask questions of the type: What will happen if? Why does this happen when? and become familiar with making predictions and providing simple reasoning (“If I do this, then this will happen ... ”) ○ The student identifies, with guidance, the factors that can be measured in an investigation (dependent variables), the factors that can be manipulated (independent variables) and those that must remain constant (control variables); identify some of the materials/equipment needed; describe a simple method but this is not fully developed.
5–6	<ul style="list-style-type: none"> ○ The student recognize, with guidance, the problem or researches question to be tested by a scientific investigation ○ The student is able to ask questions of the type: What will happen if? Why does this happen when?, and become familiar with making predictions and providing simple reasoning (“If I do this, then this will happen ... ”). ○ The student identifies, with guidance, the factors that can be measured in an investigation (dependent variables), the factors that can be manipulated (independent variables) and those that must remain constant (control variables); identify some of the materials/equipment needed; describe a simple method. ○ The student comments on the method and the quality of the results, with guidance.

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| | <ul style="list-style-type: none">○ The student suggests improvements to the method, with guidance. |
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Criterion E: Processing Data

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.

Level of Achievement	Descriptor
0	<ul style="list-style-type: none"> ○ The student does not reach a standard described by any of the descriptors given.
1–2	<ul style="list-style-type: none"> ○ Attempts to collect and record data. ○ Attempts to organize data and present data. ○ Attempts to draw an obvious conclusion.
3–4	<ul style="list-style-type: none"> ○ Occasionally collect and record data using appropriate units of measurement, with guidance ○ Occasionally organize and transform data into simple numerical and/or diagrammatic forms, including mathematical calculations and/or visual representations (tables, graphs and charts), with guidance ○ With guidance, present data in limited formats using some appropriate communication modes (oral, written and visual representation, and use of technologies) and conventions (units of measurement) ○ Attempts to interpret data by identifying trends, patterns and relationships, based on the data, with guidance ○ Attempts to draw appropriate conclusions, with guidance
5–6	<ul style="list-style-type: none"> ○ Collect and record data using appropriate units of measurement, with guidance ○ Organize and transform data into simple numerical and/or diagrammatic forms, including mathematical calculations and/or visual representations (tables, graphs and charts), with guidance ○ With guidance, present data in a variety of ways using appropriate communication modes (oral, written and visual representation, and use of technologies) and conventions (units of measurement) ○ Interpret data by identifying trends, patterns and relationships, with guidance based on the data, with ○ Draw appropriate conclusions with guidance

Criterion F: Performance in Experiments

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 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.

Level of Achievement	Descriptor
0	<ul style="list-style-type: none"> ○ The student does not reach a standard described by any of the descriptors given.
1–2	<ul style="list-style-type: none"> ○ Require supervision when carrying out scientific investigations, ○ Generally needs reminders to work effectively as a member of a team.
3–4	<ul style="list-style-type: none"> ○ Carry out most scientific investigations, with guidance safely and skillfully using materials and techniques. ○ Generally work effectively as members of a team, by being guided into collaborating, acknowledging and supporting others as well as ensuring in most occasions a safe working environment. ○ In occasions show respect for themselves and others, and deal responsibly with the living and non-living environment.
5–6	<ul style="list-style-type: none"> ○ Carry out scientific investigations, with guidance safely and skillfully using materials and techniques ○ Work effectively as members of a team, by being guided into collaborating, acknowledging and supporting others as well as ensuring a safe working environment. ○ Show respect for themselves and others, and deal responsibly with the living and non-living environment.