**Sciences MYP Level 2, Semester 2**

Criterion A: Knowing and Understanding (Maximum: 8)

At the end of year 2, students should be able to:

1. describe scientific knowledge
2. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations
3. analyse information to make scientifically supported judgments.

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| Achievement level  | Achievement level descriptor | Task specific clarifications |
| 0 | The student does not reach a standard described by any of the descriptors below. |  |
| 1–2  | The student is able to: i. **recall** scientific knowledge ii. apply scientific knowledge and understanding to **suggest solutions** to problems set in **familiar situations** iii. **apply** information to make **judgments**.  |  |
| 3–4  | The student is able to: i. **state** scientific knowledge ii. apply scientific knowledge and understanding to **solve problems** set in **familiar situations** iii. **apply** information to make **scientifically supported judgments**.  |  |
| 5–6  | The student is able to: i. **outline** scientific knowledge ii. apply scientific knowledge and understanding to **solve problems** set in **familiar situations** and **suggest solutions** to problems set in **unfamiliar situations** iii. **interpret** information to make **scientifically supported judgments**.  |  |
| 7–8  | The student is able to: i. **describe** scientific knowledge ii. apply scientific knowledge and understanding to **solve problems** set in **familiar and unfamiliar situations** iii. **analyse** information to make **scientifically supported judgments**. |  |

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Criterion B: Inquiring and Designing (Maximum: 8)

At the end of year 2, students should be able to:

1. describe a problem or question to be tested by a scientific investigation
2. outline a testable hypothesis and explain it using scientific reasoning
3. describe how to manipulate the variables, and describe how data will be collected
4. design scientific investigations.

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| Achievement level  | Achievement level descriptor | Task specific clarifications |
| 0 | The student does not reach a standard described by any of the descriptors below. |  |
| 1–2  | The student is able to: i. **state** a problem or question to be tested by a scientific investigation, with **limited success** ii. **state** a testable hypothesis iii. **state** the variables iv. design **a method, with limited success**.  |  |
| 3–4  | The student is able to: i. **state** a problem or question to be tested by a scientific investigation ii. **outline** a testable hypothesis **using scientific reasoning** iii. **outline** how to manipulate the variables, and **state** how **relevant data** will be collected iv. design a **safe method** in which he or she **selects materials and equipment**.  |  |
| 5–6  | The student is able to: i. **outline** a problem or question to be tested by a scientific investigation ii. **outline and explain** a testable hypothesis **using scientific reasoning** iii. **outline** how to manipulate the variables, and **outline** how s**ufficient, relevant data** will be collected iv. design **a complete and safe method** in which he or she **selects appropriate materials and equipment**.  |  |
| 7–8  | The student is able to: i. **describe** a problem or question to be tested by a scientific investigation ii. **outline and explain** a testable hypothesis **using correct scientific reasoning** iii. **describe** how to manipulate the variables, and **describe** how **sufficient, relevant** data will be collected iv. design a **logical, complete and safe method** in which he or she **selects appropriate materials and equipment**. |  |

**Sciences MYP Level 2, Semester 2**

Criterion C: Processing and Evaluating (Maximum: 8)

At the end of year 2, students should be able to:

1. present collected and transformed data
2. interpret data and describe results using scientific reasoning
3. discuss the validity of a hypothesis based on the outcome of the scientific investigation
4. discuss the validity of the method
5. describe improvements or extensions to the method.

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| Achievement level  | Achievement level descriptor | Task specific clarifications |
| 0 | The student does not reach a standard described by any of the descriptors below. |  |
| 1–2  | The student is able to: i. **collect and present** data in numerical and/or visual forms ii. **accurately interpret** data iii. **state** the validity of a hypothesis **with limited reference** to a scientific investigation iv. **state** the validity of the method **with limited reference** to a scientific investigation v. **state limited** improvements or extensions to the method.  |  |
| 3–4  | The student is able to: i. **correctly collect and present** data in numerical and/or visual forms ii. **accurately interpret** data and **describe** results iii. **state** the validity of a hypothesis based on the outcome of a scientific investigation iv. **state** the validity of the method based on the outcome of a scientific investigation v. **state** improvements or extensions to the method that would benefit the scientific investigation.  |  |
| 5–6  | The student is able to: i. **correctly collect, organize and present** data in numerical and/or visual forms ii. **accurately interpret** data and **describe** results **using scientific reasoning** iii. **outline** the validity of a hypothesis based on the outcome of a scientific investigation iv. **outline** the validity of the method based on the outcome of a scientific investigation v. **outline** improvements or extensions to the method that would benefit the scientific investigation. |  |
| 7–8  | The student is able to: i. **correctly collect, organize, transform and present** data in numerical and/ or visual forms ii. **accurately interpret data** and **describe** results **using correct scientific reasoning** iii. **discuss** the validity of a hypothesis based on the outcome of a scientific investigation iv. **discuss** the validity of the method based on the outcome of a scientific investigation v. **describe** improvements or extensions to the method that would benefit the scientific investigation. |  |

**Sciences MYP Level 2, Semester 2**

Criterion D: Reflecting on the Impacts of Science (Maximum: 8)

At the end of year 2, students should be able to:

1. describe the ways in which science is applied and used to address a specific problem or issue
2. discuss and analyse the various implications of using science and its application in solving a specific problem or issue
3. apply scientific language effectively
4. document the work of others and sources of information used.

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| Achievement level  | Achievement level descriptor | Task specific clarifications |
| 0 | The student does not reach a standard described by any of the descriptors below. |  |
| 1–2  | The student is able to: i. **state** the ways in which science is used to address a specific problem or issue ii. **state** the implications of the use of science to solve a specific problem or issue, interacting with a factor iii. **apply** scientific language to communicate understanding but does so **with limited success** iv. document sources, **with limited success**.  |  |
| 3–4  | The student is able to: i. **outline** the ways in which science is used to address a specific problem or issue ii. **outline** the implications of using science to solve a specific problem or issue, interacting with a factor iii. **sometimes apply** scientific language to communicate understanding iv. **sometimes** document sources **correctly**.  |  |
| 5–6  | The student is able to: i. **summarize** the ways in which science is applied and used to address a specific problem or issue ii. **describe** the implications of using science and its application to solve a specific problem or issue, interacting with a factor iii. **usually apply** scientific language to communicate understanding **clearly and precisely** iv. **usually** document sources **correctly**. |  |
| 7–8  | The student is able to: i. **describe** the ways in which science is applied and used to address a specific problem or issue ii. **discuss and analyse** the implications of using science and its application to solve a specific problem or issue, interacting with a factor iii. **consistently apply** scientific language to communicate understanding **clearly and precisely** iv. document sources **completely**. |  |