Corwin International Magnet School

Sciences, Level 2 – Assessment Criteria

Criterion A: Knowing and understanding

Maximum: 8

At the end of year 1, students should be 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.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	The student is able to: i. **select and start to recall** scientific knowledge. ii. **select and start to apply** scientific knowledge and understanding to **suggest solutions** to problems set in **familiar situations.** iii. **apply** information to **make judgments**, **with limited success**.
3–4	The student is able to: i. **recall and start to state** scientific knowledge. ii. **apply** scientific knowledge and understanding to **suggest solutions and start to solve** problems set in **familiar situations.** iii. **apply** information to **make judgments** that can start to be supported scientifically.
5–6	The student is able to: i. **state and start to outline** scientific knowledge. ii. **apply** scientific knowledge and understanding to **solve problems** set in **familiar situations and start to identify** solutions to problems set in unfamiliar situations. iii. **apply and start to interpret** information to **make scientifically supported judgments.**
7–8	The student is able to: i. **outline** and start to **describe** 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 and begin to analyse** information to **make scientifically supported judgments.**

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Criterion B: Inquiring and designing

Maximum: 8

At the end of year 1, students should be able to:

i. outline an appropriate problem or research question to be tested by a scientific investigation

ii. outline a testable prediction using scientific reasoning

iii. outline how to manipulate the variables, and outline how data will be collected

iv. design scientific investigations.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	The student is able to: i.**select** a problem or question to be tested by a scientific investigation. ii. **select** a testable prediction. iii. **state** a variable. 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. **state** a testable prediction and start to outline a testable hypothesis. iii. **state and begin to outline** how to manipulate the variables, and **state** how 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. **state and begin to outline** a problem or question to be tested by a scientific investigation. ii. **outline and start to explainn**a testable prediction. iii. **outline** how to manipulate the variables, and **state** how **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.**outline and begin to describe** a problem or question to be tested by a scientific investigation. ii. **outline and explain** a testable hypothesis **using correct scientific reasoning.** iii. **outline and explain** how to manipulate the variables, and **outline** 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.**

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Criterion C: Processing and evaluating

Maximum: 8

At the end of year 1, students should be able to:

i. present collected and transformed data

ii. interpret data and outline results using scientific reasoning

iii. discuss the validity of a prediction based on the outcome of the scientific investigation

iv. discuss the validity of the method

v. describe improvements or extensions to the method.

Achievement level	Level descriptor
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. **Begin to 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, **outline and begin to 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, **outline and begin to 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 **outline** 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.

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Criterion D: Reflecting on the impacts of science

Maximum: 8

At the end of year 1, students should be able to:

i. summarize the ways in which science is applied and used to address a specific problem or issue

ii. describe and summarize the various implications of using science and its application in solving a specific problem or issue

iii. apply scientific language effectively

iv. document the work of others and sources of information used.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	The student is able to, **with limited success**: i. **state** the ways in which science is used to address a specific problem or issue. ii. **state** the implications using science to solve a specific problem or issue, interacting with a factor. iii. **apply** scientific language to communicate understanding. iv. document sources.
3–4	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 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. **outline and begin to summarize** the ways in which science is used to address a specific problem or issue. ii. **outline and begin to describe** the implications of using science 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. **summarize and begin to describe** the ways in which science is applied and used to address a specific problem or issue. **ii. summarize and start to 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.**