

GRADE 8 SCIENCE – Insulator Design Lab

Criterion B: Inquiring and designing

Name: _____

7-8 MYP Descriptors	Level Descriptor (i)	Level Descriptor (ii)	Level Descriptor (iii)	Level Descriptor (iv)
<p>i. describe a problem or question to be tested by a scientific investigation.</p> <p>ii. outline and explain a testable hypothesis using correct scientific reasoning</p> <p>iii. describe how to manipulate the variables, and describe how sufficient, relevant data will be collected</p> <p>iv. design a logical, complete and safe method and select appropriate materials and equipment.</p>	<p>The student...</p> <p>a) Writes a(n) (____) research question.</p> <p>b) Writes a (____) introduction</p> <p>c) Includes an introduction which gives a(n) (____) overview of the background research.</p>	<p>The student...</p> <p>d) Writes a (____) hypothesis</p> <p>e) Includes a(n) (____) "because..." for their hypothesis</p> <p>f) Includes a "because" that is (____) by the research for their hypothesis.</p>	<p>The student...</p> <p>g) (____) the variables (I.V., D.V., C.V.s).</p> <p>h) Gives a(n) (____) as to how to change the I.V., measure the D.V., control the C.V.s</p> <p>i) (____) the experimental and control groups</p>	<p>The student...</p> <p>j) (____) the equipment/ materials needed</p> <p>k) (____) the relevant safety guidelines needed</p> <p>l) (____) the step-by-step method</p>
Achievement Level				
7-8	<p>a) focused, detailed, and testable</p> <p>b) detailed</p> <p>c) complete</p>	<p>d) complete and testable</p> <p>e) detailed</p> <p>f) correctly supported</p>	<p>g) outlines, including the correct units, all</p> <p>h) detailed description</p> <p>i) describes in detail</p>	<p>j) lists, including quantities, all</p> <p>k) describes completely</p> <p>l) describes completely, including materials and CVs,</p>
5-6	<p>a) focused and testable</p> <p>b) detailed</p> <p>c) satisfactory</p>	<p>d) complete and testable</p> <p>e) satisfactory</p> <p>f) supported</p>	<p>g) lists, including correct units, all</p> <p>h) brief description</p> <p>i) outlines</p>	<p>j) lists, including quantities, all</p> <p>k) outlines</p> <p>l) outlines completely including materials and CVs,</p>
3 - 4	<p>a) satisfactory</p> <p>b) satisfactory</p> <p>c) basic</p>	<p>d) complete and testable</p> <p>e) satisfactory</p> <p>f) somewhat supported</p>	<p>g) lists all</p> <p>h) brief description</p> <p>i) states</p>	<p>j) lists most of</p> <p>k) outlines, with some errors or omissions</p> <p>l) outlines, with some errors or omissions</p>
1-2	<p>a) incomplete</p> <p>b) basic</p> <p>c) incomplete</p>	<p>d) testable</p> <p>e) incomplete</p> <p>f) not well-supported</p>	<p>g) lists most of</p> <p>h) incomplete description</p> <p>i) states, with errors or omissions,</p>	<p>j) lists some of</p> <p>k) incompletely states</p> <p>l) incompletely outlines</p>

Student's Prediction:

I have....

- a) Written a (____) research question.
- b) Written a (____) introduction.
- c) Included an introduction which gives a (____) overview of the background research.
- d) Written a (____) hypothesis.
- e) Included a(n) (____) "because..." for my hypothesis.
- f) Included a "because" that is (____) by the research for my hypothesis.
- g) (____) the variables (I.V., D.V., C.V.s).
- h) Given a(n) (____) as to how to change the I.V., measure the D.V., control the C.V.s
- i) (____) the experimental and control groups.
- j) (____) the equipment/ materials needed.
- k) (____) the relevant safety guidelines needed.
- l) (____) the step-by-step method.

Best-fit Grade prediction:

Teacher Assessed Grade:

7-8 MYP Descriptors	Level Descriptor (i) Data	Level Descriptors (ii) & (iii) Conclusion	Level Descriptors (iv) and (v) Evaluation
<p>i. correctly collect, organize, transform, and present data in numerical and/or visual forms.</p> <p>ii. accurately interpret data and describe results using correct scientific reasoning.</p> <p>iii. discuss the validity of a hypothesis based on the outcome of a scientific investigation.</p> <p>iv. discuss the validity of the method based on the outcome of a scientific investigation.</p> <p>v. describe improvements or extensions to the method that would benefit the scientific investigation.</p>	<p>The student...</p> <p>a) Collects and organizes data in a(n) (____) table that includes (____) aspects listed in the lab report writing template.</p> <p>b) Transforms (averages) and presents data in a (____) graph that includes (____) aspects listed in the lab report writing template.</p>	<p>The student...</p> <p>c) Writes an accurate, (____) conclusion based on the data collected and is related to the original hypothesis.</p> <p>d) Includes (____) scientific reasoning when interpreting their results.</p> <p>e) (____) if the hypothesis was supported or not by the results.</p>	<p>The student...</p> <p>f) (____) if the method allowed sufficient collection of data, based on the experiment results.</p> <p>g) (____) how the errors or weaknesses in the method possibly impacted the results.</p> <p>h) (____) how the experiment could be improved or extended to benefit the investigation.</p>
Achievement Level			
7-8	<p>a) clear; all</p> <p>b) clear; all</p>	<p>c) detailed</p> <p>d) correct and detailed</p> <p>e) discusses</p>	<p>f) discusses</p> <p>g) discusses</p> <p>h) describes</p>
5-6	<p>a) clear; most</p> <p>b) clear; most</p>	<p>c) detailed</p> <p>d) detailed</p> <p>e) outlines</p>	<p>f) outlines</p> <p>g) outlines</p> <p>h) outlines</p>
3 - 4	<p>a) clear; some</p> <p>b) clear; some</p>	<p>c) brief</p> <p>d) no</p> <p>e) states</p>	<p>f) states</p> <p>g) states</p> <p>h) states</p>
1-2	<p>a) unclear; few</p> <p>b) unclear; few</p>	<p>c) brief</p> <p>d) no</p> <p>e) states, but with limited reference to the investigation</p>	<p>f) states, but with limited reference to the investigation</p> <p>g) states, but with limited reference to the investigation</p> <p>h) states, but with errors or omissions,</p>

Student’s Prediction:

I have....

- a) Collected and organized my data in a(n) (____) table that includes (____) aspects listed in the lab report writing template.
- b) Transformed (averaged) and presented data in a (____) graph that includes (____) aspects listed in the lab report writing template.
- c) Written an accurate, (____) conclusion based on the data I collected and is related to the original hypothesis.
- d) Included (____) scientific reasoning when interpreting my results.
- e) (____) if my hypothesis was supported or not by the results.
- f) (____) if the method allowed sufficient collection of data, based on the experiment results.
- g) (____) how the errors or weaknesses in the method possibly impacted the results.
- h) (____) how the experiment could be improved or extended to benefit the investigation.

Best-fit Grade prediction:

Teacher Assessed Grade:

COMMAND TERMS

- STATE: Give a specific name, value or other brief answer without explanation or calculation.
- OUTLINE: Give a brief account or summary.
- DESCRIBE: Give a detailed account or picture of a situation, event, pattern or process.
- INTERPRET Use knowledge and understanding to recognize trends and draw conclusions from given information.
- DISCUSS Offer a considered and balanced review that includes a range of arguments, factors or hypothesis. Opinions or conclusions should be presented clearly and supported by appropriate evidence.