

***Inquiry in the Natural, Physical, and Mathematical Sciences***

<b>Points</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>NA</b>
<b>Criteria</b>	<b>Exceed standard</b>	<b>Meet standard</b>	<b>Nearly meet standard</b>	<b>Does not meet standard</b>	<b>No evidence</b>	<b>Not measured</b>
<b>1. Define a problem and/or clearly formulate a problem statement.</b>	Demonstrates the ability to construct a clear and insightful problem statement with evidence of all relevant contextual factors.	Demonstrates the ability to construct a problem statement with evidence of most relevant contextual factors, and problem statement is adequately detailed.	Begins to demonstrate the ability to construct a problem statement with evidence of most relevant contextual factors, but problem statement is poorly written or superficial.	Demonstrates a limited ability in identifying a problem statement or related contextual factors	Inadequate/insufficient/does not attempt	Not measured
<b>2. Develop and/or apply a rigorous methodology to investigate a hypothesis or a problem.</b>	The experimental methodology was carried out correctly and resulted in the collection of useful data.	The experimental methodology was attempted and largely successful. Technical difficulties may have compromised a small subset of the data.	The experimental methodology was attempted but largely unsuccessful. Several technical issues compromised a large subset of the data.	Demonstrates a limited ability to understand or implement experimental methodology. Collected data is not useful.	Inadequate/insufficient/does not attempt	Not measured
<b>3. Select and use appropriate information to support a conclusion.</b>	States a well written conclusion that is a logical extrapolation from the inquiry findings.	Conclusion appears to be correct, or nearly correct, but language is not crisp or clear enough to be certain.	States a general conclusion that, because it is so general, also applies beyond the scope of the inquiry findings.	States an ambiguous, illogical, or unsupported conclusion from inquiry findings.	Inadequate/insufficient/does not attempt	Not measured
<b>4. Demonstrate understanding of a significant discovery in a given branch of inquiry and the impact on society.</b>	The principles behind the discovery are correctly and clearly summarized. The evaluation of the impact on society is broad and considers multiple aspects, including social, religious, political and economic effects.	The explanation of the principles behind the discovery are incomplete but the evaluation of the impact on society is broad and considers multiple aspects, including social, religious, political and economic effects.	The explanation of the principles behind the discovery and the implications for society are incomplete.	Explanation of the principles behind the discovery are incorrect or incomplete. The discussion on impacts to society is superficial.	Inadequate/insufficient/does not attempt	Not measured
<b>5. Apply fundamental principles to solve a problem or to explain observed phenomena.</b>	Correctly identifies and applies the appropriate natural laws and/or principles needed to solve a problem or explain an observation.	Correctly identifies the appropriate natural laws and/or principles needed to solve a problem or explain an observation, but application is incomplete or partially incorrect.	Identifies an incomplete set of principles needed to solve a problem or explain an observation.	Unable to identify the appropriate natural laws and/or principles needed to solve a problem or explain an observation.	Inadequate/insufficient/does not attempt	Not measured