

**General Education Competency
Scientific Reasoning Rubric**
(Scientific method and problem solving.)

Criteria	Excellent (4)	Proficient (3)	Adequate (2)	Inadequate (1)
Problem is recognized and investigative question is formulated	<ul style="list-style-type: none"> • Problem is recognized and explained in detail. • Investigative question is clearly formulated. 	<ul style="list-style-type: none"> • Problem is recognized and essentials are explained. • Investigative question is formulated. 	<ul style="list-style-type: none"> • Problem is recognized and stated. • Investigative question is outlined 	<ul style="list-style-type: none"> • Problem is not recognized or only parts of problem are recognized. • Investigative question is not formulated, unclear or incomplete.
Reasonable, testable hypothesis is presented	<ul style="list-style-type: none"> • Hypothesis is reasonable, clearly stated, and fully explains question. 	<ul style="list-style-type: none"> • Hypothesis is reasonable and answers question. 	<ul style="list-style-type: none"> • Hypothesis is reasonable, and somewhat addresses question. 	<ul style="list-style-type: none"> • Hypothesis does not answer question, is untestable or is not presented.
Prediction is formulated as logical consequence of the hypothesis	<ul style="list-style-type: none"> • Prediction is logical and fully explained. 	<ul style="list-style-type: none"> • Prediction is logical and well formulated. 	<ul style="list-style-type: none"> • Prediction is logical and reasonably outlined. 	<ul style="list-style-type: none"> • Prediction is unclear, does not follow logically from hypothesis or is not presented.
Data/observations to test hypothesis are gathered or compiled	<ul style="list-style-type: none"> • High quality data and/or high quantity of suitable data gathered and presented professionally (list or table). 	<ul style="list-style-type: none"> • Quality/ quantity of suitable data gathered that fully justifies conclusion. 	<ul style="list-style-type: none"> • Quality/ quantity of suitable data gathered and sufficiently presented to justify conclusion, but student may have overlooked some data. 	<ul style="list-style-type: none"> • Data unsuitable to test hypothesis; little or no data gathered.

Formulation of a conclusion	<ul style="list-style-type: none">• Conclusion is logical and well formulated.• Conclusion explains in detail the degree of correctness of the hypothesis and identifies further avenues of testing, or formulates new hypothesis.	<ul style="list-style-type: none">• Conclusion is logical.• Conclusion explains the degree of correctness of the hypothesis.	<ul style="list-style-type: none">• Conclusion is coherent.• Conclusion addresses the degree of correctness of the hypothesis.	<ul style="list-style-type: none">• Conclusion is incoherent or not presented.• Conclusion does not explain the degree of correctness of the hypothesis.
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