NATURAL SCIENCES RUBRIC

	Exemplary (4)	Proficient (3)	Performing (2)	Emerging (1)	Score
Define problem	**Student shows complete understanding of the problem including relevant contextual factors and understands fully any relevant quantitative information that will be needed to solve problem**	**Student shows strong understanding of the problem which identifies many contextual factors and sees that some quantitative information that will be relevant to solve problem**	**Student shows partially developed understanding of the problem including a few contextual factors and attempts to identify what quantitative information will be needed to solve the problem**	**Student shows limited understanding of the problem and contextual factors and fails to identify sufficiently what quantitative information will be needed to solve the problem**	
Identify strategies	**Student proposes a hypothesis to clearly answer the question and/or devises effective approaches to solving the problem and defines fully the quantitative methodology that will be brought to bear on the problem.**	**Student proposes a hypothesis to loosely answer the question and/or devises an approach to solving the problem and proposes an accurate quantitative methodology that will be brought to bear on the problem.**	**Student proposes a hypothesis attempting to answer the question and/or devises an approach to solving the problem but does not apply sufficient or accurate quantitative methodology to the problem.**	**Student is unable to formulate a hypothesis and/ or devises an approach to solving the problem that is flawed or inappropriate, and does not adequately apply accurate quantitative methodology to the problem.**	
Generating Solutions	**Student seeks to solve problem in an orderly and logical manner, any quantitative results generated are both accurate and on point with the problem at hand.**	**Student seeks to solve problem in an orderly manner, any quantitative results generated have bearing on the problem at hand.**	**Student procedures for solving problem are flawed, quantitative results generated are partially accurate but not germane to the problem at hand.**	**Student approach to problem is insufficient or severely flawed, any quantitative results generated are inaccurate or not germane to the problem at hand.**	
Evaluating Outcomes	**Student can describe the outcome and explain in detail if the hypothesis was supported, justify the outcome rationally given the quantitative results discovered; can discern and describe any potential flaws in the outcome given variables in quantitative or other information used in the solution. Is fully capable of ascertaining whether approach was correct.**	**Student partially explains if the hypothesis was supported, can provide a rationale for the outcome given the quantitative results; considers potential flaws in the outcome given variables in quantitative or other information used in the solution. Can surmise that the approach was correct.**	**Student somewhat explains if the hypothesis is supported, cannot explain results fully; does not identify any potential flaws in the outcome given variables in the information or errors in judgment or approach. Is unable to determine or is unsure whether approach was correct.**	**Student does not reflect on the result at all, cannot explain if the hypothesis is supported; does not consider potential flaws in the outcome given variables in information and errors in student judgment or approach. Does not reflect on approach or attempt to determine whether approach was correct.**	

The goal for the science GE classes is to have students learn and develop the ability to solve scientific problems using scientific reasoning and quantitative literacy.