SCIENCE RUBRIC

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

	Capstone 4	**Milestones** 3	 2	**Benchmark** 1
Demonstrate Knowledge of Fundamental Science Concept	A major scientific concept, historical trend, data trend or empirical finding, directly related to the discipline is explained fully. All information presented reflects up to date knowledge in the discipline.	A major scientific concept, historical trend, data trend or empirical finding, directly related to the discipline is explained quite well, although it contains a minor omission or minor irrelevant factual inclusion. Only minor recent updates in the field may be absent.	A major scientific concept, historical trend, data trend or empirical finding, directly related to the discipline is explained moderately well, although one significant omission, irrelevant factual inclusion or introduction of common misconceptions may have occurred. Only minor recent updates in the field may be absent.	A major scientific concept, historical trend, data trend or empirical finding, directly related to the discipline is explained somewhat adequately. Several significant omissions, irrelevant factual inclusion or introduction of common misconceptions may have occurred. Only minor recent updates in the field may be absent.
Critical Evaluation of Research Findings	Demonstrates the sophisticated ability to include all relevant elements in the interpretation of research data (supporting or rejecting a hypothesis or theory, analyzing case studies, providing alternative explanations). All components are carefully explained and all data is accounted for. Reasonable conclusions/predictions are made based upon conclusions reached during a thorough examination of these data. Proper statistical protocols are observed when appropriate.	Demonstrates the ability to include most relevant elements in the interpretation of research data (supporting or rejecting a hypothesis or theory, analyzing case studies, providing alternative explanations), although minor elements may be excluded or interpreted improperly. Some peripheral components may not be explained or are explained improperly. Conclusions / predictions made may be based upon incomplete data analysis, but are otherwise sound. Proper statistical protocols are observed when appropriate.	Demonstrates the ability to include all the basic elements in the interpretation of research data (supporting or rejecting a hypothesis or theory, analyzing case studies, providing alternative explanations) but is missing a key component. Some significant data may not be accounted for. At least one conclusion / prediction is not well-supported by the data. Appropriate statistical protocols are used in an invalid manner.	Demonstrates the ability to include at least one relevant element in the interpretation of research data (supporting or rejecting a hypothesis or theory, analyzing case studies, providing alternative explanations), however several key components are absent. Much of the data may have been ignored. Predictions are not well-supported by the data. Appropriate statistical protocols may be absent.
Application of Prior Knowledge to Science Related Issues	Demonstrates complete development of new understanding via the transfer, adaptation or application of prior knowledge to a science related issue. New insights of utmost clarity are exhibited in an appropriate manner such as classroom discussion, written communication, one to one conversation, project presentation, etc.	Presents good development of new understanding via the transfer, adaptation or application of prior knowledge to a science related issue. New insights are relevant, but imperfectly exhibited in an appropriate manner such as classroom discussion, written communication, one to one conversation, project presentation, etc.	Presents moderate development of new understanding via the transfer, adaptation or application of prior knowledge to a science related issue. New insights are somewhat relevant, and demonstrated in an appropriate manner such as classroom discussion, written communication, one to one conversation, project presentation, etc.	Presents some observable (but minimal) development of new understanding via the transfer, adaptation or application of prior knowledge to a science related issue. New insights lack relevance, and may be demonstrated in an inappropriate manner.
Identify Reliable Sources of Information	Demonstrates reliable sources of Information from at least three sources that are relevant to the discipline (sources may include peer reviewed journal, discipline specific textbook, appropriate magazine, world wide web). No inappropriate sources are used.	Demonstrates reliable sources of Information from two sources that are relevant to the discipline (sources may include peer reviewed journal, discipline specific textbook, appropriate magazine, world wide web). One source may be used that is of questionable rigor or irrelevant to the information sought.	Demonstrates reliable sources of Information from at least one source that is completely relevant to the discipline (sources may include peer reviewed journal, discipline specific textbook, appropriate magazine, world wide web). One source may be used that is of questionable rigor or irrelevant to the information sought.	Demonstrates reliable sources of Information from at least one source that is peripherally relevant to the discipline (sources may include peer reviewed journal, discipline specific textbook, appropriate magazine, world wide web). One or more sources may be used that are of questionable rigor or irrelevant to the information sought.