

Natural Sciences Assessment Rubric

Outcome(s): Demonstrate a broad understanding of scientific inquiry by:

- *Identifying key elements of scientific inquiry relative to a problem in the natural world*
- *Solving problems based on scientific data, information, or models*
- *Evaluating conclusions*

	Rating – 3 (Mastery)	Rating – 2 (Satisfactory)	Rating – 1 (Emerging)	Rating – 0 (Not Demonstrated)
Identifies key elements of scientific inquiry relative to problem	All elements of the methodology or theoretical framework are skillfully developed. Appropriate methodology or theoretical frameworks may be synthesized from across disciplines or from relevant sub disciplines.	Critical elements of the methodology or theoretical framework are appropriately developed, however, more subtle elements are ignored or unaccounted for.	Critical elements of the methodology or theoretical framework are included, but are incorrectly developed, or unfocused.	Inquiry demonstrates a misunderstanding of the methodology or theoretical framework.
Solves problems based on data, information, or models	Organizes and synthesizes evidence to reveal insightful patterns, differences, or similarities related to the problem under investigation. Demonstrates elegant ability to reason by deduction, induction, or analogy.	Organizes evidence to reveal important patterns, differences, or similarities related to the problem under investigation. Demonstrates appropriate ability to reason by deduction, induction, or analogy	Organizes evidence, but the organization is not effective in revealing important patterns, differences, or similarities. Demonstrates limited ability to reason by deduction, induction, or analogy	Lists evidence, but it is not organized and/or is unrelated to the problem under investigation. Demonstrates no ability to reason by deduction, induction, or analogy
Evaluate conclusions, limitations, and/or implications	States a conclusion that is a logical extrapolation from the inquiry findings, limitations and implications. Demonstrates advanced ability to distinguish between causal and correlational relationships.	States a conclusion focused solely on the inquiry findings. The conclusion arises specifically from and responds specifically to the inquiry findings limitations and implications. Demonstrates appropriate ability to distinguish between causal and correlational relationships.	States a general conclusion that, because it is so general, also applies beyond the scope of the inquiry findings limitations and implications. Demonstrates limited ability to distinguish between causal and correlational relationships.	States an ambiguous, illogical, or unsupportable conclusion from inquiry findings limitations and implications. Demonstrates no ability to distinguish between causal and correlational relationships.