

Figure 3.1: Science Practices Rubric

Criteria	4–Advanced	3–Proficient	2–Developing	1–Beginning
Scientific question is based on an observable pattern.	Question is thoughtful and invites deeper investigation.	Question is clearly based on an observable pattern.	Question is loosely related but lacks clarity or connection to a specific observation.	Question is unrelated or not connected to a specific observation.
Question is designed to support understanding or investigation.	Question is well-constructed and clearly aims to test or extend understanding using a model or scientific method.	Question shows intent to explore a concept or model through investigation or reasoning.	Question may reflect curiosity but is too general or unfocused to guide investigation.	Question does not reflect scientific thinking or cannot guide further learning.
Student identifies how a model helps or limits understanding.	Student clearly identifies multiple ways the model both supports and limits understanding of a phenomenon.	Student accurately explains one way the model helps or limits understanding.	Student mentions the model but explanation of its usefulness or limits is unclear or vague.	Student does not mention the model, or the explanation is inaccurate or missing.
Student proposes a way to investigate the question using observation or data.	Proposal includes a clear, logical, and feasible investigation using tools, observation, or data collection.	Proposal is reasonable and connects to the question in a way that could produce evidence.	Proposal is attempted but unclear or disconnected from the question.	No proposal is offered, or proposal is unrelated or unrealistic.
Student uses accurate scientific vocabulary and reasoning.	Scientific terms are used accurately and purposefully; reasoning shows depth of understanding.	Scientific vocabulary is mostly correct and used appropriately; reasoning is logical.	Some scientific language is used but may contain errors or lack depth.	Scientific vocabulary is incorrect or missing; reasoning is unclear or inaccurate.

Source: Created with the assistance of ChatGPT.