

- a. Students synthesize the evidence logically and make explicit connections to known scientific theories or models.
 - b. Students develop an argument that explicitly supports or refutes the given claim, explanation, or design solution using the evidence and known scientific information.
- II. Evaluating given evidence and/or reasoning
- 1. Identifying the given claims and associated evidence and/or reasoning
 - a. Students clearly identify the given claims or explanations.
 - b. Students clearly identify the given evidence that supports or refutes the given claims or explanations.
 - c. Student clearly identify the given reasoning that supports or refutes the given claims or explanations.
 - 2. Identifying any potential additional evidence that is relevant to the evaluation
 - a. Students identify additional evidence, scientific theories, or models that were not given to the student.
 - 3. Evaluating and critiquing
 - a. Students use the additional (not given) evidence to assess the validity and reliability of the given evidence along with the ability of the given evidence to support or refute the claims or explanations.
 - b. Students evaluate the logic of the given reasoning.

Obtaining, Evaluating, and Communicating Information

- I. Obtaining information
 - 1. Students obtain information from published material appropriate to the grade level.
 - 2. Students compare and coordinate information presented in various modes (e.g., graphs, diagrams, photographs, text, mathematical, verbal).
- II. Evaluating information
 - 1. Students analyze the validity and reliability of each source of information, comparing and contrasting the information from various sources.
 - 2. Students analyze the information to determine its meaning and relevance to phenomena.
- III. Communicating information
 - 1. Communication style and format
 - a. Students communicate information using at least two different formats (e.g., oral, graphical, textual, mathematical).
 - b. Students use communication that is clear and effective with the intended audience(s).
 - 2. Connecting the Disciplinary Core Ideas (DCIs) and the Crosscutting Concepts (CCC)
 - a. Students' communication includes clear connections between the targeted DCIs and the targeted CCCs in the context of a specific question, phenomenon, problem, or solution.