









5. Work with your team to decide if
- one claim (A or B) has stronger evidence and reasoning to support it, while the alternative claim has weaker evidence and may be refuted,
  - neither claim A or B has strong enough evidence and reasoning to support or refute it and more evidence is needed to answer the question, or
  - the evidence for both claims A and B may be combined to create an even stronger claim.

Using the criteria below, write a scientific argument that answers the question: Which claim about the effects of rising carbon dioxide levels on plants is best supported by evidence and reasoning? Your argument should include:

- your claim (either a, b, or c above)
- relevant evidence and reasoning that supports your claim
- scientific reasoning that critiques the evidence and evaluates your claim.
- a rebuttal that refutes the other two claims

### Scientific Argument

### Rebuttal

6. Scientists engage in argumentation to get feedback and revise their ideas. Scientists share their ideas with other scientists interested in the same question through presentations. Depending on their own ideas, the scientists in the group may agree, disagree, or question the argument that is being presented.

You will model aspects of this process. Check off each step as you complete it.

- Exchange your team's argument with a member of another team.
- Read your partner's argument.
- Ask questions to clarify your understanding of what your partner wrote.
- Provide feedback on sticky notes. Write at least two pieces of feedback on your partner's argument to help them improve their work. Place the sticky note near the place on their argument that generated your feedback idea.
- Return the argument and sticky notes to your partner.
- Share the feedback you received with your team. Work with your team to revise your argument based on the feedback your team received.

## Synthesize and Summarize Ideas

7. The unit central question is **“How do matter and energy move through a system as living things interact with each other and the environment?”** Return to the first page of Lesson 1 and revise your ideas in a different color.

In the space below, write a reflection that summarizes the changes in your thinking and what caused your ideas to change. Be prepared to share your reflection with the whole class.

8. During this unit, you used the crosscutting concept of systems and system models to think about the interactions of matter and energy and to develop a scientific argument about the effects of rising carbon dioxide levels on plants. How did thinking about systems and system models help you understand interactions of matter and energy and develop a strong scientific argument (or not)?





