



Short Answer

Teaching Tips



To help foster a supportive environment for feedback, introduce the [importance of feedback](#) and [how to give empathetic feedback](#) with our mini-lessons.



The best questions are open-ended and ask students to **justify** opinions, **analyze** material, **articulate** a thought process, or **evaluate** a claim.



Avoid fact-based recall questions.



The best feedback criteria are **positively oriented** and relevant to learning objectives. Criteria can focus on both **content knowledge** and **writing structure**.

- Make students aware of the criteria so they know how to craft their response. Or, have students decide what appropriate criteria would be.
- Emphasize that students have to make a choice about assigning feedback. *Both* or *neither* aren't options!



The best discussion questions ask students to **verbalize their thought process** about the feedback they gave. For example: "93% you said Response 1 explained the concept of photosynthesis better. Can someone share what aspect of the response made you think that?"

- Have students **predict** what results will be.
- Focus discussion on the qualities of the **responses** rather than on the students who wrote the responses.



To promote students' **metacognitive development**:

- Encourage students to **ask themselves questions** during the activity:
 - "Does my response meet all the criteria?"
 - "How did giving feedback improve my understanding of the content?"
 - "How can I improve my response using the feedback I got?"
- Provide clear **time signals** throughout the activity.



To **incorporate feedback in the moment**, ask students to reflect on how they can improve their response after receiving feedback. You may want to take time to have them **revise** their responses, either in class or for homework.



Biology

In all Short Answer activities, your students **create** responses, **compare** peer responses and provide scaffolded feedback, then **converse** results as a class.

Short Answer gets your students the immediate feedback they need through social, engaging peer feedback activities and gets you deeper insight into what your students know.

Short Answer can be used at every stage of your Biology lesson plan from lectures to labs:

Bellringer	Get students warmed up and engaged by using Short Answer to prompt written responses about what stands out from yesterday's class.
Check for understanding	Break up lectures with quick feedback activities that get students interacting with one another. Deepen understanding while getting a quicker, more accurate pulse of what they know on an individual level.
Guided practice	Group students together to write responses and give feedback to other groups, or provide a model response in Short Answer.
Independent practice	During Short Answer activities, encourage students to reflect on how their response matches up to the ones voted as the strongest by the class. Invite revision and iteration of responses as another in-class activity, exit ticket, or homework.
Labs	Use Short Answer to bring feedback into the scientific process. Your students can create procedures for experiments, hypothesize results, and infer conclusions from data before bringing them to the class for analysis and debate.
Exit Ticket	Complete a quick, one-round Short Answer activity to leave students thinking about the most important points of the day.
Homework	Have students complete writing assignments about core content and bring them in next class for peer feedback activities and discussion to deepen understanding.



See the following page for two detailed Biology use cases with example questions, feedback criteria for students to evaluate responses with, and standards alignments.

Sample Use Cases: Biology

Mid-Lesson Content Review

Activity Time: 5-10 minutes

Use Short Answer to assess whether students understand new material. Results from the feedback activity inform whether content needs to be re-explained or if the class is ready to move on.

Sample Questions

- Explain the role of DNA in human development.
- What role do mutations play in genetic variation?
- Why are some diseases more common in males?

Feedback Criteria: use of facts to support argument; detailed explanation; accurate

Standards Alignment Examples

- Write arguments focused on discipline-specific content. (*CC, WHST.9-12.1*)
- Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. (*CC, RST.6-8.2*)
- Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors. (*NGSS, HS-LS3-2*)

Pre-Lecture Idea Generation

Activity Time: 10-15 minutes

Have students hypothesize about how biological processes work before formally introducing them. Students can work alone or in groups to form hypotheses and provide feedback on peers' explanations before discussing as a class.

Sample Questions:

- Describe how plants convert sunlight into energy.
- Outline the major steps of the cellular respiration process and explain which step you feel is the most crucial.
- What are two similarities between photosynthesis and cellular respiration?

Feedback Criteria: detailed explanation; creative similarities; accurate; educated guess

Standards Alignment Examples

- Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes. (*CC, WHST.6-8.2*)
- Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. (*CC, RST.11-12.9*)
- Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms. (*NGSS, MS-LS1-6*)