

Teaching Tips

To help foster a supportive environment for feedback, introduce the <u>importance of</u> <u>feedback</u> and <u>how to give empathetic feedback</u> 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.



Geometry

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 Geometry lesson plan from lectures to in-class practice.

Bellringer	Get students engaged by using Short Answer to prompt written responses about what stands out from yesterday's class or to preview new material with a warm-up problem.
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 solve problems 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.
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 Geometry use cases with example questions, feedback criteria for students to evaluate responses with, and standards alignments.

Sample Use Cases: Geometry

Note: Short Answer doesn't support equation or proof formatting yet, but works well when discussing generalized problem solving strategies and procedures.

Procedural Knowledge and Problem Solving

Activity Time: 5-10 minutes

Use Short Answer to nail down foundational geometry skills and crowdsource strategies for solving problems, opening up discussion to address common mistakes and misconceptions.

Sample Questions

- Describe how to find the interior angle of a regular polygon with 4 sides. What about a regular polygon with *n* sides?
- Choose one triangle congruence theorem and explain how you apply it to determine whether two triangles are congruent.
- Explain how to write the area formula of a cylinder if the only information you have is that the height is 2 times the length of the diameter.

Feedback criteria: efficient; accurate; easy to understand; detailed procedure

Standards Alignment Examples

- Look for and express regularity in repeated reasoning. (CC, MATH.PRACTICE.MP8)
- Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. (*CC*, *HSG*.*CO*.*B*.*8*)
- Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems (CC, HSG.GMD.A.3)

COMING SOON: Solving Proofs and Showing Work

Activity Time: 10-15 minutes

Have students solve any proof in Short Answer, then give feedback to peers on how their solution can improve. Bonus points for asking students to write how they solved the problem! (In the future, students will be able to upload a photo of their work.))

Sample Questions:

- Given a triangle with $m \angle 3 = 90$, show that $m \angle 1$ and $m \angle 2$ are complementary.
- Prove that if two parallel lines are cut by a transversal, then the pairs of corresponding angles are congruent.

Feedback Criteria: efficient; accurate; creative approach; clear explanation of thought process

Standards Alignment Examples

- Construct viable arguments and critique the reasoning of others. (CC, MATH.PRACTICE.MP3)
- Prove theorems about lines and angles. (CC, HSG.CO.C.9)
- Prove theorems about triangles. (CC, HSG.SRT.B.4)