Reference: Peer Feedback Guidelines

Teacher Instructions

There will be times in your classroom when facilitating students to give each other feedback will be very valuable for their three-dimensional learning, and for learning to give and receive feedback from others. We suggest that peer review happen at least once, but preferably two times per unit. This document is designed to give you options for how to support this in your classroom. It also includes student materials to support giving and receiving feedback, along with self-assessment rubrics where students can reflect on their experience with the process.

When is a good time to facilitate peer review?
Peer feedback is most useful when there are complex and diverse ideas visible in student work and not all work is the same. Student models or explanations are good times to use a peer feedback protocol. They do not need to be final pieces of student work; rather, peer feedback will be more valuable to students if they have time to revise after receiving the peer feedback. It should be a formative, not summative, type of assessment. It is also necessary for students to have experience with past investigations, observations, and activities where they can use these experiences as evidence for their feedback.

What are classroom structures I can use for peer review?
Below are three examples of ways to organize peer review in your classroom. You may choose to use all of them depending on your time or material constraints, or you may choose to always use one structure for review, so that your students get familiar with it and better at it over time.

Sticky Note Peer Review: In this protocol—shared on *Tools for Ambitious Science Teaching*—students use sticky notes to leave questions and comments on posted student work. There is time built in for students to respond to the feedback. Use the self-assessment rubrics in this document at the end of the class period for students to reflect on their experience in this feedback session.

Peer Review with Unit Rubrics: Each unit and the OpenSciEd curriculum overall have Science and Engineering Practice (SEP) specific rubrics for teachers to assess student work. You can also use these as a way for students to assess each other's work and give feedback on how to improve. For example, in the Sound unit during lesson set one, students develop models of how objects vibrate to make sound. We suggest having students use the rubric for this task to give specific feedback to each other. You can use this in a gallery-walk type setting or have students exchange models.

Group Review: Ask students to get into groups of four. Have students bring their individual models or explanations (or other piece of student work) to the group. Review feedback guidelines as a class, giving examples of good and bad feedback. Then, in pairs, have students provide feedback to the other two pieces of student work. They can use sticky notes or write directly on the work. Make sure to leave individual work time for students to revise their models and complete the self-assessment rubric.

Giving Feedback to Peers

This tool was inspired by the Sticky Note Feedback resource originally developed by Ambitious Science Teaching at https://ambitiousscienceteaching.org/sticky-note-student-feedback/.

Feedback needs to be specific and actionable.
This means it needs to be related to science ideas and it provides your suggestions for improvement.
The following are productive examples:

- "Your model shows that the sound source changes position when it is hit. I think you should add detail about how the sound source moves back and forth after it is hit."
- "You said that the drum moves when it makes sound, but the table doesn't move when it makes sound. We disagree and suggest reviewing the observation data from the laser investigation."

The following are nonproductive examples of feedback that do not help other students improve:

- "I like your drawing."
- "Your poster is really pretty."
- "I agree with everything you said."

How to Give Feedback:
Your feedback should give ideas for specific changes or additions the person or group can make. Use the sentence starters below if you need help writing feedback.

- The poster said _____. We disagree because _____. We think you should change _____.
- I like how you _____. It would be more complete if you added _____.
- We agree that _____. We think you should add more evidence from the _____ investigation.
- We agree/disagree with your claim that _____. However, we do not think the _____ (evidence) you used matches your claim.

Receiving Feedback from Peers

The purpose of feedback is to get ideas from your peers about things you might improve or change to make your work more clear, more accurate, or better supported by evidence you have collected. It also helps you to communicate your ideas more effectively to others.
When you receive feedback, you should do the following:

- Read it carefully. Ask someone else to help you understand it, if necessary.
- Decide if you agree or disagree with the feedback and say why you agree or disagree.
- Revise your work to address the feedback.

Giving Feedback

How well did you give feedback today?

Today, I ...	YES	NO
... gave feedback that was **specific** and about **science ideas.**		
... shared a suggestion to help improve my peer's work.		
... used evidence from investigations, observations, activities, or readings to support the feedback or suggestions I gave.		

One thing I can do better the next time I give feedback is

_____

_____

Receiving Feedback

How well did you receive feedback today?

Today, I ...	YES	NO
... **read the feedback** I received carefully.		
... **asked follow up questions** to better understand the feedback I received.		
... **said or wrote why I agreed or disagreed** with the feedback.		
... **revised my work** based on the feedback.		

What is one piece of feedback you received?

_____

What did you add or change to address this feedback?

_____

_____