Best Practices Tool 5: Sharing Information

Learning Goal
Identify forms of pollution, effects and relationships between pollutants and human actions.

Origin Lesson
Learning About (What)

Neighborhood Patrol
Ask students to imagine what life would be without clean air. Ask students to list as many things as they can that might make the air and water unsafe. Take students on a walk outdoors to look for examples of pollution. Ask students, what kinds of plants or animals could be affected? Ask, what might have caused each form of pollution? How did the litter get on the ground? How did oil get on the pavement? Have students record their answers. Back inside, students draw pictures of the pollution. Look through magazines for more examples of pollution. Have students take turns putting their examples into categories on a large poster board. Ask these questions to the students: do any of the same items appear in both categories? If so, do you agree with where those items are placed? Can people always see, hear, or smell pollution? Ask students how each could be prevented? Finally, have the discussion that we can’t prevent all pollution.

Best Practices Modified Lesson
Figuring Out (Why and How)
The social aspects of science are rarely explicitly taught, and yet, sharing information is at the core of what science is all about. Using convincing evidence and arguing from evidence is what moves our understanding of the natural world forward. Students need to be taught how to communicate what they know, otherwise, new information cannot be assimilated.

Use any or all the Share Information routines in your lessons. The routines focus on 4...
approaches of obtaining, evaluating, and communicating information. Some routines you* do to set the culture of shared ideas, others the students** use to help give them voice:

*your teaching style
*include everyone’s voice
*productive educator talk moves
**communicate through writing

The lesson above is a barrage of IRE (Initiate, Response, Evaluate) exchanges between the educator and the students. It is a ping-pong game of talking. Instead, include the Productive Talk Moves Tool to turn this lesson into a volleyball game, where the students are engaged with one another rather than the educator.

Let the students ask the questions of each other by adopting a Dialogic/Interactive class culture. Include fewer, closed-ended questions. Ask Why and How rather than What questions. Maybe just 2 questions that cannot be answered quickly but require students to naturally think about more questions as they figure out their claims. For example, “how does pollution affect how animals survive in their space?” This open question will lead to all sorts of rich, inquiry-based investigations, modeling, evidence collecting, and explaining.
Prompting Notes
Implementing even one of the above best practices tools will build the culture of student discourse, and not just between them and you, but more importantly among the students. When you hear the word inquiry, and even more precisely the word scientific practices, it is social AND cognitive aspects of science that you are having your students engage in. **Sharing observations** and wonderings with one another, **questioning one another** and **corroborating information** are the pillars of scientific discovery and literacy.

Guiding Discussion Lessons/Questions

1. Share a lesson you teach that most closely reflects the Dialogic/Interactive space in the Share Information in Groups Tool (or from the Teaching Continuum).
2. Select a lesson you teach that is more reflective of the Authoritative/Non-Interactive space in the Share Information in Groups Tool (or Traditional from the Teaching Continuum), and redesign/discuss how you would make it more Dialogic/Interactive.

Additional Resources:
