

Science Talks



Purpose

Science Talks are discussions about big questions. They are appropriate for any grade level, but they are particularly useful for elementary students. Like a Socratic Seminar, Science Talks deal with provocative questions, often posed by students themselves. Science Talks provide space for students to collectively theorize, to build on each other's ideas, to work out thoughts, and to learn about scientific discourse. Most importantly, they allow all students to do exactly what scientists do: think about, wonder about, and talk about how things work. These talks provide a window on student thinking that can help teachers figure out what students really know and what their misconceptions are. Armed with this insight, teachers can better plan hands-on activities and experiments.

Materials

- Guiding question for the Science Talk, determined beforehand

Procedure

1. Choose the question. The best questions are provocative and open-ended, so as to admit multiple answers and theories. Often, students generate great questions for Science Talks. Teachers can also generate questions based on their own wonderings.
2. Introduce Science Talks to students. Gather students into a circle on the floor. Introduce the first Science Talk by discussing what scientists do.
3. Then ask, "What will help us talk as scientists?" Record the students' comments, as these will become the norms for your Science Talks. If the students don't mention making sure that everyone has a chance to talk, introduce that idea, as well as how each person can ensure that they themselves don't monopolize the conversation. Stress how each student's voice is valued and integral to the success of a Science Talk.
4. Set the culture. Students direct their comments to one another, not to the teacher. In fact, the teacher stays quiet and out of the way, facilitating only to make sure that students respectfully address one another and to point out when monopolizing behavior occurs. In a good talk, you'll hear students saying, "I want to add to what Grace said..." or "I think Derek is right about one thing, but I'm not so sure about..."
5. Another good question to pose is "How will we know that what we've said has been heard?" Students will readily talk about how they can acknowledge what's been said by repeating it or rephrasing before they go on to add their comments. This is a great place to add (if the students don't) that talking together is one way scientists build theories.
6. A typical talk lasts about 30 minutes. Take notes during the talk about who is doing the talking and to record particularly intriguing comments.

continued

Variations

- With young students, do a movement exercise that relates to the Science Talk. For a talk on how plants grow, students may be invited to show, with their bodies, how plants grow from bulbs. Not only does this give students a chance to move before more sitting, it also gives them a different modality in which to express themselves. Sometimes the shy students also find acting something out first helps them to verbalize it.
- Have students prepare for a Science Talk by reading and annotating pertinent texts. Combining Science Talk with a Jigsaw or another text-based protocol could work well here.
- Pair a Science Talk with a writing activity on the same topic.
- Record the talks. Replaying the tapes later helps to make sense of what at first hearing can seem incomprehensible. Students also love hearing the tapes of Science Talks.