

I teach eighth grade Physical Science in Nottoway County, which is a Title 1 school. We have so many students that are considered to have low socioeconomic status that all students get free lunch and breakfast. My students are a mostly even split of African-American and Caucasian, with a very few Hispanic students (a few are still considered English learners) and one Korean student.

My students do not have much experience at all participating in discussions of written text, issues, or ideas. They are used to being allowed to “free read,” without discussion, or group reads, with teacher-led discussions... where they can get away with not participating or paying attention as long as someone or a few people in the class are answering questions. Many students in my classes seem to be afraid to come up with their own ideas about concepts in class; afraid to be “wrong.” I tell them all the time that, “Scientists learn the most when they are wrong!” but that doesn’t always help.

To create an environment where students feel safe to express their opinions and ideas, I start by modeling that behavior from day one. When called on, don’t know? That’s okay, we’ll figure it out together. Offer up an answer that is wrong? That’s okay, I’ll figure out a way to make it “right,” or to at least see your train of thought. When other students start to make derogatory comments towards what a student has said during a discussion, I nip that right in the bud, with discussions about respect and having discussions with your peers.

I try to get students to consider what they already have observed about the natural world and have discussions about how what we are learning explains some natural phenomenon. Also, a lot of Physical Science is Chemistry-- talking about atoms and molecules and things we can’t easily see or manipulate, so we have to have a few theoretical discussions about what we know about matter and what we are guessing about. I also try to get them to make connections to things they’ve learned previously, either earlier in the semester or earlier in their learning.