

## **Why Visit? Benefits for Students, Teachers, and Scientists**

A conversation between a science educator and an elementary school science teacher.

Q: Why should a scientist bother to visit an elementary science classroom? What does it do for the students?

A: Some of the benefits for the students are: The visit will increase knowledge of the subject matter and the particular field of science. It may spark an interest and enthusiasm for science. Perhaps it will inspire a future pursuit in that academic field or profession. The visit will certainly provide a wonderful learning opportunity with a fresh face and voice.

Q: Some people might think that little kids, like 3<sup>rd</sup> graders, can't really benefit from a scientist visit. Is that true?

A: Absolutely UNTRUE!!!! Younger students often have more open, freer minds than older people. Frequently they observe details that we overlook. Recently one of my third graders asked about the word kalaidoscope when I was talking about word origins of microscope & telescope. That question sent me on an investigation because I had no clue. Working with younger children can be a continual learning experience. Often, the lower grades are where attitudes toward science begin to develop.

Q: One of the things we hear from scientists is that they are afraid they will talk over the heads of the students or use words or vocabulary that they do not understand. Is this concern valid, and if so, what can a scientist do about it?

A: This is a valid concern. During the pre-planning with the teacher, vocabulary should be an important part of the discussion. Teachers could teach some of the key terms prior to the visit. The scientist could focus on particular terms during the presentation by writing them on the board, having them on cards, and asking questions of the students to be sure they are understanding.

Q: What kinds of pre-conceptions, that may be wrong, do students have about scientists and science?

A: Students often think of scientists as nerds in lab coats. They think they are extremely intellectual and too smart to talk with. Scientists spend all of their life in the lab.

Q: You know, kids sometimes ask questions that can be embarrassing to adults. Sometimes they do it on purpose and sometimes they just don't know it's inappropriate. If this happens during a scientist visit, what should the scientist or the teacher do?

A: When a student asks an inappropriate question, for whatever reason, It is OK to say that it is inappropriate and move on. A simple " That's not appropriate (or related) to the topic." is a simple way to move forward.

Q: Another thing that can happen during a visit is that there is one student who really knows a lot about the topic or is just full of questions and starts to kind of monopolize the discussion. Is there anything wrong with this happening, as long as it's on the topic? Do you have any advice for the scientist?

A: It is an amazing experience to encounter a 7 or 8 year old who feels they now everything about a topic! When will I reach that feeling? Don't EVER let any one student monopolize the discussion. It is very important to get questions and response from the greatest variety of students.

Q: OK, I can see that it means a lot for the students, and that it's not just the science content that they learn, but what does a scientist visit do for the teacher?

A: Hopefully the scientist will provide a validation of the teacher's efforts to teach the scientific process, the use of equipment, the development of observational skills, the importance of recording experiences and findings in words and drawings. The scientist can also support the teacher in the development of the understanding of concepts and vocabulary. The scientist can help in distinguishing between scientific questions and non-scientific questions. A visit from a scientist usually increases the content knowledge of the teacher as well as the students.

Q: OK. Now, I know you're not a professional scientist, so maybe we should address this question more to the audience, but in your experience, what does the visit end up meaning to the scientist? How do they benefit?

A: This is my perception of how they can benefit, based on my experiences: They might develop greater communication skills because they are working with an audience quite different from their peers. Their thinking might even be stimulated by the questions and observations made by the students. They have an opportunity to share and spread an enthusiasm for their field of study and their subject matter.

### **The three stories that a scientist can tell**

Well, from what you've said, it looks to me like there are three important stories a scientist can tell when they visit a classroom. One is the story of their research or the topic they're talking about; a second is the story of themselves, how they got interested in science, why they care about it so much, their autobiography, and the third story is the story of their institution, where they do their science and how science is done in groups of scientists working together.

It looks like this is pretty important!