

INQUIRY ACTIVITY 5.1



How Do Students Learn Science?

In this chapter you are going to be introduced to a number of theories that are used to explain how students learn science. Before you begin your study of this important topic, you might want to interview practicing science teachers or some of your peers to find out how and under what circumstances they think students learn best.

Materials

- Tape recorder

Procedures

1. Working with a team of peers, put together a series of interview questions designed to pique the knowledge base of practicing science teachers or a group of your peers about the basic question posed in this chapter: How do students learn science? Some questions that you might consider for the interview are listed next. You should also refer to the questions that were used to interview the teachers for the Science Teachers Talk sections of the *Science Teacher Gazette*. (You can find these on page 32.)

Interview Questions about How Students Learn

- In your experience, what have you found to be successful ways to help students learn?
 - Do you believe a particular theory is more effective than others in explaining how your students learn (e.g., behaviorist versus constructivist theories)?
 - How do you motivate students to learn? What are some effective strategies?
 - What do you think are some of the reasons students have difficulty learning science concepts?
 - What do you do to help students that are struggling with science or have learning disabilities become interested in and understand science?
2. Once you have a set of questions, contact the teacher you wish to interview. Explain the purpose of the interview and how the information will be used. You should keep in the mind human rights issues with regard to interviewing or gathering data on human subjects. Although this is not a research project, you should maintain the confidentiality of the individual and respect the person's integrity. You should explain fully why you are conducting the interview and how you will use the results. You should explain that the person's identity will not be used in any discussions among other members of your class unless permission is granted.
 3. Visit the school and conduct the interview. Make sure the teacher understands the purpose of the interview and grants you permission to tape record the interview, if you plan to do so.

Minds-On Strategies

1. What are the main concepts that teachers believe account for student learning? That is, how do practicing science teachers think students learn science?
2. What do science teachers think motivates students to learn science?
3. What are your opinions about how students learn science?