



Learning Project

GED Science and You

(Note: Italicized portions should be directed to the students.)

Inquiry Activity #1: Explore Your Experiences with Science

1. Identifying the Problem

This activity is started after the class has taken the *GED Science Practice Test*. This portion of the activity is done individually.

The problem you will be exploring involves the following questions. As in other inquiry activities, this first step asks you not to answer the question at once, but to make sure that you understand the questions being asked. If you want to discuss your understanding of the questions with others, please do so.

What are some of the things you know about science, and what are some of the things you want to know?

2. Becoming Familiar with the Problem

This second step starts the process of thinking about what you already know about the subject. Take some notes on what you know about the question. To help you, consider the following questions:

The list of questions may seem too extensive to you. These are not intended to be answered individually, but rather to start the learners' thinking process about science and their experiences with the subject. As you download the original version for your learners, you may wish to eliminate some or many of the questions. Or you may prefer to hold a class discussion in which you prompt with some, any, or all of the following. Your sense of your class will be your guide.

Think about the experience you have just had in taking the GED Science Practice Test. Don't think about whether you got an answer right or wrong but focus instead on what kind of reading and questions were on the test and how you reacted to them. Make some notes on your recollections.

Think further beyond the Practice Test you just took and recall your reactions when you looked at the test in the GED and You experience. This may have been some time ago.

- 1. What were your thoughts and reactions while you took the science test?*
- 2. What science seemed familiar to you? What had you seen or read about before?*
- 3. What science seemed unfamiliar to you, such as specific words, ideas, charts or graphs, kinds of questions?*
- 4. Think back to your experience with science in school. Recall when you first had science lessons. When did science become more challenging? What science courses did you take? What do you remember about those courses?*
- 5. What do you remember about the science books? Were they interesting or boring? Hard or easy to read? What did the teachers do to help you? What else do you remember about science in school?*

3. Planning, Assigning, and Performing Tasks

Planning: *This is an individual activity. You can think about how you will organize your thoughts and recollections to answer this question.*



Performing Tasks:

Doing the Work

Think a little more about the experiences you had in science in school and in this GED class. Write down the thoughts that go through your mind as you remember those experiences. Write down notes to the following questions:

1. How do you feel when you think about science?
2. What are some of the things you know about science, and what are some of the things you want to know?

Make a list of your answers divided into the following categories: *What I Know about Science*, and *What I Want to Know about Science*.

Reaching a Conclusion

Now form groups. Each group will do the following:

1. From the group members' lists, develop a list of the science topics that the group knows about.
2. Develop a list of the science topics the group members don't know that much about.
3. Besides general science, what other areas of science (life science, earth science, physical science) do you have questions about? List as many as possible.
4. Discuss some of the emotional reactions you had when you talked about science in school.

The group should prepare its lists for presentation to the class and decide if it wants to discuss the feelings the group members had about science in school.

4. Sharing with Others

Each group will present its lists to the rest of the class and be prepared to lead a class discussion if there are questions or comments from the class.

The instructor will lead a discussion that references and pulls together some of the following items among all the groups, after they have made their presentations.

- Class members' strengths in understanding general science concepts
- Class members' lists of other areas of science study about which they would like to know more

Lead a discussion on science experiences that create anxiety and concern among class members. If considerable discussion about science anxiety ensues, then you might want to develop an Inquiry Activity that allows the learners, working alone or with others, to explore some of their experiences.

5. Reflecting, Extending, Evaluating

In this section the questions are divided so the learners can think about what they experienced, extend their learning experiences to new contexts, and evaluate their learning. The kinds of questions used to accomplish this kind of thinking are the analytical, creative, and practical questions discussed by Robert Sternberg in his book, *Successful Intelligence* (2000).

In general, creative and practical questions are most useful in the Extending subsection. Analytical questions are most useful in Reflecting and Evaluating. In these subsections, use questions you have developed from your just-in-time assessments or as a result of comments made during the sharing portion of the Inquiry Activity.

If you feel the learners are sufficiently confident, they may lead the discussion. As the instructor, you are a member of the class and should participate in the discussion. This is a wonderful opportunity for just-in-time assessments.

**Reflecting: Think about what you have learned.**

These questions tend to be analytical in Sternberg's *Successful Intelligence* model.

1. *What new discoveries have you made about GED science?*
2. *What impact do you think your emotional reaction to science has when learning the subject?*
3. *What impact do you think your emotional reactions to science have when taking a science test?*
4. *What areas of science will you need to work on most?*
5. *Make a list or plan for how you will work to prepare for the GED science test.*

Extending: Extend what you learned to new situations.

These questions tend to be creative or practical in Sternberg's *Successful Intelligence* model.

1. *Think about how you feel in a course you like.*
2. *How do you feel in that course, and how can you transfer that feeling to a course you may not like so much, like science?*
3. *Think about the things you use in your everyday life that come from scientific development. What are some of these things? What would your life be like without them?*

Evaluating: Assess what you learned and how you learned it.

These questions tend to be analytical in Sternberg's *Successful Intelligence* model.

1. *If you have a negative reaction to science, what do you think causes that reaction?*
2. *How do you think you could overcome that reaction?*
3. *How do you feel about your motivation to pass the science portion of the GED test?*
4. *How will you study for science?*
5. *What made thinking about how you feel about science valuable to you?*
6. *How might you improve this activity?*