Asking Questions Activity #1: Balloons and Skewers

General Objective: To provide an opportunity for learners to ask questions in science by observing a phenomenon and experiencing that phenomenon.

The facilitator does the following:

1. Show a balloon and a skewer.
2. Blow up balloon.
3. Ask what happens when a sharp object and a balloon come into contact.
4. When people say that the balloon pops, then pop the balloon.
5. Blow up a 2nd balloon. Say something like, “Wouldn’t it be interesting if I could push the skewer through the balloon without popping it?” Do it as you say it.
6. Let learners observe the skewer in the balloon. Solicit questions from learners and encourage them to record those questions in their notebooks.
7. You can help learners differentiate between researchable questions and testable questions. Researchable questions are those that can be looked up in a resource such as a dictionary or a on a web search. Testable questions are those can that be tested to determine the answer.
8. Have learners write questions in their notebooks.
9. Lead a discussion of the questions that have been written. Encourage learners to ask deeper questions.
10. Pass out balloons and skewers to everyone.
11. Assist learners as needed.
12. Once everyone has been successful, have students revisit their questions and answer them. Share with the full class.

The balloons and skewers activity is an example of a

discrepant event. Discrepant events usually involve a phenomenon that is counterintuitive and creates cognitive dissonance for the learner. They are excellent ways to help learners ASK their own questions based on the phenomenon observed.

The role of the presenter is to generate opportunities for the learners to ask questions. If learners are utilizing science notebooks, science journals or other personal record-keeping tools, student-generated questions should be put in the notebooks. Not only should learners be encouraged to ask questions, but they should be expected to find answers to their own questions as well.

Supporting Resources:

- Balloons & Skewer Lesson Video (requires Adobe Flash)
- Discrepant Event Podcast (requires Adobe Flash)
- Science Notebooks Podcast (requires Adobe Flash)

Related Crosscutting Concepts:

- Cause & Effect
- Stability & Change

Related Disciplinary Core Ideas:

- Core Idea PS1: Matter and Its Interactions
    - PS1.A: Structure and Properties of Matter
- Core Idea PS2: Motion and Stability: Forces and Interactions
    - PS2.A: Forces and Motion
    - PS2.B: Types of Interactions
    - PS2.C: Stability and Instability in Physical Systems