Using Project-Based Learning in Science

Which of these activities will students probably find more interesting: conducting research and diagnosing the illness that caused a teenage girl to faint, or reading about the symptoms and treatment of diabetes in a textbook? Most of us would choose the first option, which is an example of project-based learning, an instructional strategy that allows students to learn by exploring real-world problems.

Project-based learning is one of the promising practices in the National Partnership’s Afterschool Training Toolkit for science. Although project-based learning makes most content areas more meaningful to students, afterschool science instructors will find that allowing students to experience science in real-world situations helps them understand and remember scientific concepts.

You can learn more by exploring the Exploring Science Through Projects and Problems practice in the science toolkit. The activity in which students conduct research to diagnose diabetes is called “What Happened to Mya?” If you are interested in trying project-based learning in your afterschool program, here are some things to keep in mind:

Talk to your school-day teachers. Find out what science concepts, skills, and standards students are studying that might lend themselves to science projects. For example, raising fish from eggs can build on school-day biology study about habitats, species, and life cycles.

Work with students to select a topic that interests them. Ask students to brainstorm a list of topics that interest them and then determine how they are related to science.

Make sure you have enough time for an ongoing project. Project-based learning works best when students can work on projects in a regular, ongoing way as some projects can take several days or weeks.

Discuss the project and make a plan. Identify what students will do, make a project plan and timeline, identify resources you will need, and then conduct the project.

Newsletter available online at www.sedl.org/afterschool/afterwords/
My House Center for Learning
NEW ORLEANS, LOUISIANA

You know you have a great afterschool science program when one thematic project teaches students about anatomy, the physics of sound, and the construction of musical instruments—all while exposing them to jazz and classical music. My House Center for Learning is a nonprofit organization that includes science activities as part of its afterschool offerings to New Orleans children. In the lesson described above, which is called “music in the air,” students listen to different types of music and are taught how to build their own musical instruments. They also learn about parts of the ear and how they hear things, the differences between pitch and sound and vibrations and frequencies, and the origins of different types of music.

The program is in an early stage of rebirth after Hurricane Katrina’s devastation literally forced My House to find a new home. “Although we have not returned to our original site, we are still trying to provide the same services on a smaller scale,” explains community science workshop director Jeanna Barrett. These services include a wellness program that teaches students nutrition and fitness, a small flower garden, and exposure to career opportunities in science. As the program rebuilds, Barrett remains committed to keeping students engaged in science.

Do you use project-based learning in your afterschool program?

☐ Yes, but only for science.
☐ Yes, and we use it for lots of subject areas, not just science.
☐ No, but it’s something I’d like to try.
☐ No, and I don’t think we’ll be trying it any time soon.

To participate in this survey and view results, submit your vote at www.sedl.org/afterschool/afterwords/survey200710.html.

Using Technology for Project-Based Learning

Thanks to the Internet, there are several project-based learning activities that you can explore at little to no cost. Sites like the Jason Project (www.jason.org) allow students to chase tornados and learn about hurricanes, while programs like Frogwatch USA (www.nwf.org/frogwatchUSA) allow students to study frogs and toads in their area while learning about conservation issues at the same time.

Do you have a training tip you would like to share? E-mail us at afterwords@sedl.org with “training tip” in the subject line.