



AFTERSCHOOL *news*



Learning by Asking: Investigating Science Through Inquiry

What do blowing bubbles from different soap solutions, dropping an apple into a tub of water, and examining a U.S. Department of Agriculture food pyramid all have in common? These activities are all examples of Investigating Science Through Inquiry, one of the promising practices in the science section of the Afterschool Training Toolkit (www.sedl.org/afterschool/toolkits/science/pr_investigating.html).

Inquiry is grounded in asking questions, making predictions, and testing those predictions. For example, in the above situations, you may ask, "What brand of dish soap produces the biggest bubbles? What determines whether an object will sink or float? How nutritious is the food served in the school cafeteria?" Once you have posed a question, consider an experiment that will let students discover the answer by investigating, observing, collecting and analyzing data, and communicating results. As students begin the process of scientific inquiry in afterschool, many of the first investigations will be more instructor-directed. As students learn the process, they can be more self-directed. The Afterschool Training Toolkit can provide guidance on determining how self-directed your students are and what a scientific inquiry might look like based on their level of independence (www.sedl.org/afterschool/toolkits/science/pdf/ast_sci_inquiry_table.pdf).

Investigating Science Through Inquiry works because students are directly involved in their own learning—questioning, observing, recording and analyzing data, reflecting on their findings, and sharing those findings with others. Students develop cognitive abilities—critical thinking and reasoning skills—as well as science understanding.

If you would like to see an example of scientific inquiry in action in an afterschool program, go to the Investigating Science Through Inquiry practice of the science section of the toolkit (www.sedl.org/afterschool/toolkits/science/pr_investigating.html) and click on the video. If you think your afterschool students might be interested in exploring questions related to bubbles, water, or food pyramids, click on the "Sample Lessons" tab to explore the lessons.



Investigating Science Through Inquiry works because students are directly involved in their own learning.

The National Partnership for Quality Afterschool Learning helps state education agencies and local practitioners develop high-quality programs for academic enrichment as well as youth development activities.

www.sedl.org/afterschool



FEATURED *resources*

THE CONSUMER'S GUIDE TO AFTERSCHOOL SCIENCE RESOURCES

This free resource contains reviews of high-quality, hands-on science content for afterschool programs. It has been updated recently to include reviews of 15 additional curricula, including reviews of materials for afterschool leaders seeking information about offering science activities in their afterschool programs.

www.sedl.org/afterschool/guide/science



"[Young people] enjoy the process of making things because [it] allows them to problem solve and be in charge of their own learning and creativity."

ADRIANA PENTZ
director of operations

Vision Education & Media

NEW YORK, NEW YORK

Vision Education & Media (VEMNY) is a company that runs afterschool educational technology programs. The organization reinforces STEM (science, technology, engineering, and math) standards through robotics, animation, game design, and web design workshops. These workshops combine a variety activities, such as creating unique projects, conducting research, designing Web pages, and ultimately presenting the finished products to peers and parents.

Director of operations Adriana Pentz says that the hands-on, investigative nature of the projects keeps students interested, even after a full day of school work. "We have discovered that young people enjoy learning when it is hands-on, fun, interactive, and challenging. They enjoy the process of making things, whether it is a robotics animal, a 3-D representation of something, or a video game, because the process allows them to problem solve and be in charge of their own learning and creativity," says Pentz.

After VEMNY finished a recent workshop with a group of New York middle school students, nearly half of the class went on to create animations and video games on their own. Some of the students posted their work on an online forum where kids can share their projects, and one of the more advanced students returned for the second afterschool program as a teaching assistant.

IN YOUR words

What would give your afterschool science activities the biggest boost? (Select one.)

- More equipment (from microscopes to test tubes, you name it, we need it)
- Afterschool instructors with a background in science
- More space (it's hard to conduct science experiments when you don't have your own classroom)

To participate in this survey and view results, submit your vote at www.sedl.org/afterschool/afterwords/survey200808.html.

Produced for the

U.S. DEPARTMENT OF EDUCATION

Technical Assistance and Professional Development for
21st Century Community Learning Centers



by the

NATIONAL PARTNERSHIP FOR QUALITY AFTERSCHOOL LEARNING

Advancing Research, Improving Education



Editor: Laura Shankland
Designer: Shaïla Abdullah

Copyright © 2008 by the SEDL. This newsletter was produced in whole or in part with funds from the U.S. Department of Education under contract number ED-03-CO-0048. You are welcome to reproduce AfterWords and distribute copies at no cost to recipients; please credit SEDL as publisher.

TEACHING TIP

Safety First

Safety is always a consideration for any science program. Students should have adequate adult supervision—a good rule of thumb is 1 adult for every 5–10 children. Remind students to wash their hands before their fingers end up in their mouths or eyes and to always use eye protection. Have a first-aid kit available and follow program guidelines for emergencies. For more information on safety, look for safety reference books from the National Science Teachers Association (www.nsta.org).

EVENTS calendar

Sept. 15–16 Global Youth Enterprise Conference
www.youthenterpriseconference.org
WASHINGTON, DC

Sept. 17–19 National Conference on Science & Technology in
Out-of-School Time
www.scienceafterschoolconference.org
CHICAGO, IL

For more events, visit our calendar at
www.sedl.org/afterschool/training/calendar.html.

Newsletter available online at www.sedl.org/afterschool/afterwords

