

Cornell University  
Cooperative Extension  
Otsego County

## NEWS RELEASE

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### **Otsego County 4-H Staff Leads Science Program**

In April and May, 4-H staff from Cornell Cooperative Extension of Otsego County were among a select group of 4-H staffers across the country to pilot one of the new 4-H project books for the new Science, Engineering and Technology (SET) initiative in the CROP after school program in the Cherry Valley Springfield Central School. Lead by Susan Carver, 18 Fourth through Sixth Grade students helped to evaluate ten activities from SET's "Earth Ecosystems" books. They designed insects, explored forest and stream habitats, tried to launch a lima bean seed, made insect sampling nets, and studied water quality and more during the five week pilot period. After each activity, the 4-H staff and the students evaluated the activity, brainstorming on ways to improve them. Evaluations were forwarded to the National 4-H Council to be included in the final draft of the activity guides.

#### Facing a Critical Challenge

Although the United States is currently the world's economic and military leader, we are at a critical juncture. We must adapt to meet the evolving economic and national security landscape of the 21st century. At the core of this challenge is our nation's proficiency in science, engineering, and technology. Too many young Americans do not have the science, engineering, and technology career skills necessary to succeed—and meet our country's needs—in the future:

- Only 18 percent of high school seniors are considered proficient in science (NAEP 2000)
- A mere 5 percent of college undergraduates earn degrees in science and engineering (Rising Above the Gathering Storm 2006)

In the next decade, our nation will face a significant workforce shortage in the critical science, engineering, and technology fields that will put our leadership at risk—unless action is taken.

#### Working Towards a Solution

With 4-H and the Cooperative Extension System's (CES) direct connection to the cutting-edge research and resources of the nation's 106 land-grant universities and colleges, we are strategically positioned to strengthen the U.S. global competitiveness and leadership in science, engineering, and technology. The 4-H Science, Engineering, and Technology (SET) program is the national priority of the 4-H Youth Development Program for the next five years.

Currently, 4-H SET activities reach 5.9 million youth (before duplications are eliminated) with hands-on learning experiences that foster exploration, discovery, and passion for the sciences. The combination of content and context inherent in 4-H club and camp programs is proven to have a positive effect on youth, resulting in young adults who are prepared to contribute, excel, and lead in their communities and workplaces.

4-H will address our nation's critical challenge by preparing 1 million new young people to excel in science, engineering, and technology. As a public-private partnership, 4-H can focus resources and expertise through SET to improve science literacy; increase the number of American students seeking undergraduate degrees in science, technology and engineering; and increase the number of young adults pursuing careers in these fields. Other primary components of the national 4-H SET program include:

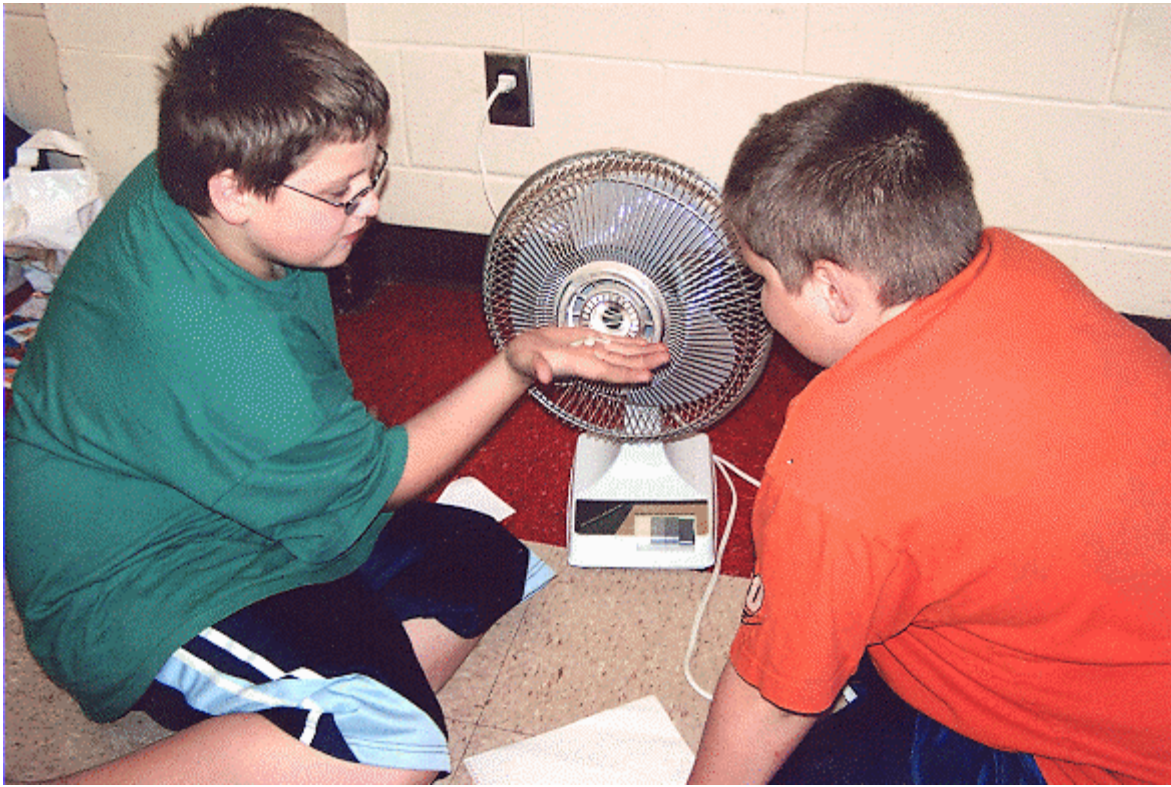
- Create and nationally disseminate innovative SET curriculum that supports the development of scientific literacy within the context of non-formal experientially-based instruction
- Foster and support 4-H clubs, camps, and after-school programs that employ SET curriculum
- Identify a 4-H SET liaison from each land-grant institution to stay connected to state and local CES staff and volunteers
- Provide SET training for 4-H youth development professionals and volunteers

The national 4-H SET Leadership Team—drawn from all facets of 4-H and Extension—is crafting a framework for progress that outlines 4-H SET's objectives in seven key areas: program development, professional and volunteer development, curriculum development, evaluation and research, communications, collaboration and partnerships, and funding. This framework is based on four guiding principles that give 4-H a clear niche in the SET arena. They are:

- Science, engineering and technology learning takes place in the context of the Essential Elements of 4-H Youth Development.
- 4-H's approach to science, engineering, and technology must include youth/adult partnerships.
- Programs are based on National Standards.
- Programs are delivered in a variety of setting and locations and involve diverse audiences.

National 4-H hopes to have the final draft of the books out next year.

To learn more, contact Susan Carver, Community Educator, 4-H Youth Development, [sac65@cornell.edu](mailto:sac65@cornell.edu) or 607-547-2536.



[Photo, caption "Cherry Valley/Springfield Central School CROP students experiment ways of launching a lima bean seed."]

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