Engaging Youth in Citizen Science

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Happy Citizen Science Day: April 14, 2018

Please join us in celebrating Citizen Science Day, which falls this year on Saturday, April 14th. This issue of *Connected Science Learning* is dedicated to highlighting effective citizen science programs that involve classroom students in collecting data for research scientists, while also engaging them in key STEM (science, technology, engineering, and math) content and practices. Students get a “front row seat” to what scientists do and how scientists work, plus develop the reasoning skills and practices used by scientists.

SciStarter, an effort of Arizona State University that is featured as a *Connected Science Learning* Brief in this issue, nicely identifies the STEM learning impacts that quality citizen science projects have on the volunteer citizen scientists:

- Enable and encourage people to learn about, participate in, and contribute to science through informal recreational activities and formal research efforts.
- Inspire greater appreciation and promote a better understanding of science and technology among the general public.
- Create a shared space where scientists can talk with citizens interested in working on or

learning about their research projects.
- Satisfy the popular urge to tinker, build, and explore by making it simple and fun for people—singles, parents, grandparents, kids—to jump in and get their hands dirty with science.

We know that the most effective STEM learning occurs when the content is relevant to the lives of the learner. Many citizen science efforts connect to the local needs of a community, or the interests of students, while adding to a body of knowledge that individual researchers could not accomplish on their own.

Read about how in North Carolina, middle school students, working with a wide spectrum of partners, help scientists:

1. understand the distribution of ant species in the state,
2. identify the microbiomes of dandelions in the area, and
3. understand the distribution of sharks during ancient times when the area was underwater.

Learn how the International Arctic Research Center at the University of Alaska, Fairbanks, weaves indigenous knowledge, climate change learning, citizen science, and climate action into a program that engages indigenous youth in learning about climate change.

Enjoy the newest *Connected Science Learning* Column—The Engaged Scientist

Given that this issue focuses on ways youth can support scientists in their research, it seems only appropriate to introduce the journal's newest column, *The Engaged Scientist*. This column highlights scientists, engineers, and other science-based professionals' efforts to enhance connected STEM learning that engages preK–12 youth in in-school and out-of-school learning experiences. The hope is that the column will "shine a light" on the way science-based professionals can add value to what happens in and out of the classroom. The column will also help science-based professionals see ways they can support STEM learning. This is especially important at a time when funding agencies, such as the National Science Foundation, are asking scientists to show the Broader Impact of their research.

The inaugural *The Engaged Scientist* column features seven researchers from the Northwest who helped teachers and students develop their data literacy using environmental data from Mt. Bachelor and the H.J. Andrews Experimental Forest in Oregon.

I hope you enjoy the contributions in the three parts of issue 6. Stay tuned for the Maker-themed seventh issue, which will start coming out in July.