

Retired engineers share hands-on STEM knowledge with Valley students

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Arnold Brenner, curriculum director with Arizona Science Lab and a retired Motorola executive vice president, teaches a group of Gilbert students about electricity and magnetism.

Volunteer engineers and scientists are leading free, hands-on science lab workshops throughout the school year to get more kids interested in science careers.

[Stuart Wecker](#), executive director of the nonprofit Arizona Science Lab, said the four-hour, project-based workshops have been teaching fourth- to eighth-graders “real” science since 2009 in Tempe.

“We try to teach a lot of real science,” said Wecker.

The group rents a school auditorium from the Tempe Elementary School District and teaches classes of kids typically two to three days a week from September to May. The schools just pay for transportation.

The \$50,000 annual program lives through grants and donations from Arizona Public Service Co., **First Solar** Inc., the Salt River Project Foundation, **Intel** Corp., Verizon Wireless and the Nina Mason Pulliam Charitable Trust. The Phoenix Chapter of the Institute of Electrical and Electronic Engineers, a professional group of 400,000 engineers worldwide, provides volunteers to teach the workshops.

On a recent Thursday in March, a 45 fourth-graders from Boulder Creek Elementary School of Gilbert learned about electricity and magnetism using bread boards with batteries, switches and light bulbs. The kids learned how to connect motors to make a series circuit and turn on light bulbs. The kids were able to take their homemade electric motors home.

[Craig Elliott](#), Boulder Creek's fourth-grade science and social studies teacher, said since his students are state tested for science, these workshops and experiments make science real for them.

"They love the hands-on," Elliott said. "This culminates with our unit on electricity, so it's perfect. This is a really good program, and I appreciate them teaching the kids."

Students also learn about solar, rockets, why things float, density, wind forces, physics and other science topics.

[David Leeper](#), an Arizona Science Lab board member, said the goal is to get kids interested in science, technology, engineering and math.

"It's good to hit them with STEM mainly in fourth to sixth grade," Leeper said. "We love getting them this early because they're curious."

Intel, which has a large presence in Chandler, often provides volunteers to help out with the workshops. [Ken Yee](#), a quality and reliability manager in Chandler, regularly coordinates a team of eight Intel engineers to participate. The Intel Foundation also provides \$10 an hour to the nonprofit for every hour one of its employees volunteer.

"Intel is big on education, especially STEM," said Yee, adding that since 2012 Intel has put in close to 400 hours with Arizona Science Lab. "We treat these volunteer events like a team-building activity. It's our way of giving back to the community."

Arizona Science Labs used to bring their workshops to the schools, but moved to the Tempe school last August to offer the workshop to more students.

Arizona Science Labs is always in need of more engineer volunteers, especially women, who love science and working with kids. The nonprofit is also always in need of donations to keep the workshops going.

For more information, [click here](#).



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