

Inspiring the scientist in every student!

Just for Educators



Welcome to the inaugural issue of *STEM Notes*, a periodic newsletter devoted to keeping Santa Fe STEM educators informed about programs, resources and activities of the Santa Fe Alliance for Science!

You may think of our volunteers as only STEM fair judges, but we're doing much more to foster collaborations with teachers and inspire students, as you will see below.

We are excited to have recently inked a three-year partnership with Santa Fe Public Schools (SFPS.) We look forward to hearing your thoughts and ideas as to how we might help you as we further develop this relationship.

Finally, we're working on building our SFPS contact list. Please forward this newsletter to interested colleagues. If you received the newsletter second-hand, please subscribe to future issues [here](#) or by contacting me by [email](#).

Diane Smogor
Executive Director

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What's Goin' On?

Since March, Alliance volunteers have redirected their considerable energies

toward new projects designed to support Santa Fe Public Schools teachers and students remotely in their explorations of STEM concepts and applications. Here's some of what we've been up to:

- **STEM Videos:** A team of Alliance volunteers has created a catalog of 25 short STEM videos to boost students' innate curiosity about the world, and to encourage critical thinking and creative problem-solving. A digital *Educator's Learning Guide* is available with abstracts, mappings to NGSS standards, and suggestions for expanding topical coverage. The video library can be accessed [here](#).
- **FOSS Training:** In July, twelve Alliance volunteers participated in a week-long virtual training session on the Santa Fe Public School's FOSS (Full Option Science System) curriculum and the integrated use of active-learning science kits supplied by the LANL Foundation. Volunteers experienced firsthand the challenges of delivering inquiry-based science education in a virtual classroom environment. They also learned how and why investigation notebooks and "meaning making" conversations are essential to the FOSS approach to STEM education.
- **Adopt a Scientist:** Earlier this fall, the Alliance launched a new initiative to bring volunteers and teachers together to support STEM education in remote-learning settings. Teachers are matched with SFAPS members who function as virtual tutors, mentors, coaches and assistants. Student/volunteer interactions typically take place for approximately 40 minutes once a week, with two or three students at a time. To learn more contact [Diane Smogor](#) or [Suzanne Roepke](#).
- **Virtual STEM Fair Judging:** An Alliance team led by board member, Barbara Bianchi, is working closely with Chari Kauffman, SFPS Science Coordinator, on how best to transition from in-person to virtual judging of STEM fair and Expo projects. Our cadre of experienced volunteer judges will soon begin training on the zFairs® software platform adopted by SFPS. Among other features, the platform easily connects judges and students for face-to-face interviews and feedback sessions. Expect to receive additional information about the judging process in early January. Meanwhile, contact [Barbara](#) should you have questions or concerns.
- **Imaginative Alliance volunteers** have come up with two "mini-STEM Challenges" that you can send home with your student over the winter break: The [Spaghetti Tower](#) challenge and the [Hoop-winged glider](#) challenge. These two activities rely on materials readily available at home, and reinforce basic principles of science and engineering investigation. Fun and simple to carry out, these activities are sure to spark further student curiosity. And they won't even realize they're "doing science"!

Several other program initiatives are currently underway or undergoing beta testing prior to their release. We'll keep you posted!



Hope Cahill demonstrates a scientific principle in her 6th grade classroom.

Hope Cahill, A Passion for Science

Santa Fe Public Schools is blessed with many talented science teachers. This article is the first of a series to acknowledge outstanding STEM teachers, especially in the darkness of these remote-learning times. We hope you'll [send us the names](#) of others you would like to see recognized.

For many Alliance volunteers, Hope Cahill is the first teacher and fair coordinator that comes to mind. Even volunteers who don't know her recognize that Eldorado Community School puts on an amazingly well-organized STEM fair with interesting projects that are fully formed and executed. In fact, Hope was nominated earlier this month as one of two state science finalists for the prestigious 2021 Presidential Award for Excellence in Mathematics and Science Teaching.

For Hope, teaching is a calling rather than a job. She first taught language arts and creative writing but then took a hiatus from the classroom until her two sons were themselves in school. While a substitute instructor, Hope learned that her son's science teacher would be leaving mid-year. She stepped in as a long-term sub and that experience, coupled with her love for geology, led to a career teaching science.

Hope believes that education generally, and STEM education, in particular, should be place-based. In her words, teachers should strive to "connect the content with the backyard." Hope regularly takes students on field trips to a local river or wetland.

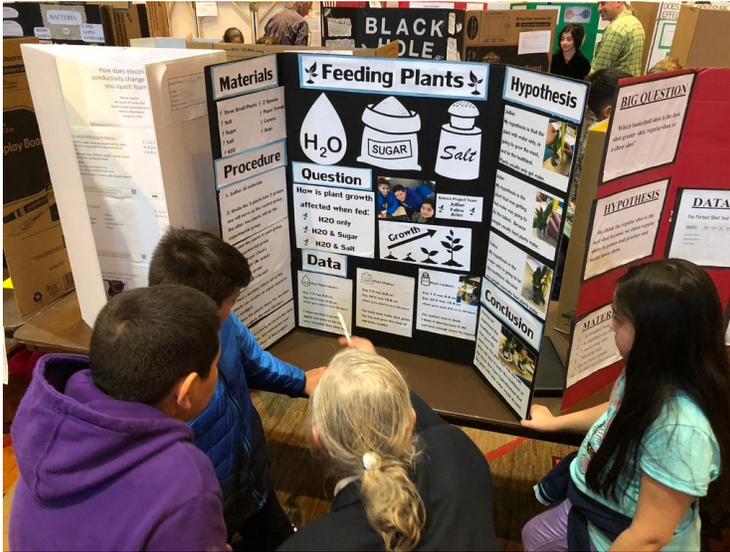
What Hope loves about teaching science is that it generates in students an intellectual curiosity and enthusiasm that is often difficult to attain with other subjects. Science gives her sixth-graders a new lens with which to more clearly view and understand the world around them.

Hope believes that STEM fair projects showcase the scientific method, which she considers an essential life skill. STEM fair participation is a major

component of her science curriculum and her approach to STEM fair coordination.

Neal Schaeffer, Volunteer Team Leader

Searching for STEM Project Ideas?



Children are born with all the traits of a good scientist or engineer. They are curious, are eager to investigate their surroundings, and happy to experiment. How best to harness this natural curiosity and energy? Hands-on STEM projects provide one answer!

Baseball great Yogi Berra famously said: “You can observe a lot by just

watching.” The same can be said about successful science and engineering investigations. They often begin with simple observations about our surroundings. How are the eyes of various animals different and why? Which parachute design best protects an egg dropped to the floor from a height of six feet?

Once the student has settled on a project idea, the next challenge is how best to proceed with the investigation. You will find our recently posted article entitled "[The Investigation Process](#)" particularly helpful because it describes for students the essential steps in any scientific or engineering research project.

The Alliance [website](#) already offers an invaluable set of other STEM tools and tips with everything from choosing a project idea, to examples of successful student SFPS projects, to questions a STEM fair judge might ask, and more. Please take full advantage of these and other helpful Alliance resources.

Of course, there are many Internet web sites that have great ideas for STEM projects. In fact, a recent Google® search returned more than 2.830 billion hits. We don't recommend that students simply take a project description from the Internet and then just follow the step-by-step instructions as though baking a cake. Instead, students should learn to use the ideas of others to come up with their own unique projects. The key to a successful STEM project is to find something that really interests and excites the student investigator.

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