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News

Rockets, space seeds, and cabbage juice

Middle school showcases NASA program at science fair

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By Cameron Macdonald - Citizen Staff Writer

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Photos by Keri Wood - Nathan Brown watches his dad Mike Brown attempt the Cartesian Diver game during the NASA Explorer School Discovery Night at Edward Harris Jr. Middle School.

NASA wants to see future scientists coming out of Elk Grove's Edward Harris, Jr. Middle School.

The organization gave a three-year grant to the school to get students engaged in science projects based on actual NASA research.

"Here are some doors that are being left open, if you are interested then come play with us," NASA education officer Tom Clausen said about the philosophy.

Students taught and demonstrated scientific phenomena that they learned about during their first year of the NASA Explorer Schools program during a science and math fair on March 13.

Guests experimented with cabbage juice to learn about acid, built and launched paper rockets, studied slime, ate freeze-dried ice cream that astronauts dine on, dissected owl pellets where they found bones and fur, and learned how to land airplane flights without crashing them on a computer simulator.

When students and parents launched their rockets, their teacher and NASA educator ran faster than the students to pick up the rockets on a field.

Harris math teacher Cary Smallwood studied density by squeezing a 2-liter water bottle and causing enough water pressure to drop a smaller bottle inside and hook up with another small bottle.

"OK, I need a picture, who's got a camera?" he asked.

On the "Cartesian Diver" experiment, Smallwood said: "It's good for problem solving. Understanding the problem is half of the battle, once you get it, now you get it every time."

Harris's NASA program kicked off last fall when astronaut John Herrington visited the campus and told students about his experience working in a space shuttle and floating in outer space.

The three-year program is funded with a $17,500 grant and takes the school's science teachers to NASA workshops where they learn how to teach scientific projects, supplies them with resources and allows students to interact with NASA staff.

Some of the teachers will be attending the National Science Teachers Association's annual convention in Boston later this month.

"For Year One of the program, we started off very strong and I think it's going to grow exponentially," Harris science teacher Lonny Villalobos said.

He and Harris's principal, Felicia Bessent, took three tries to earn a NASA grant for their school.

Villalobos mentioned that the agency was looking for a school that had a diverse population and significant number of underprivileged students. He also said the program intends to attract students to the fields of "STEM" or Science, Technology, Engineering, and Math.

"Their goal is to take students that are not typical of entering STEM careers and get them to go into STEM,"

Villalobos said.

Clausen said that offering the program at a middle school is important since the students will move on to more advanced science and math classes in high school where they will also consider careers.

Harris science teacher Louie Corpuz experimented with cinnamon-basil seeds that were taken onboard a space shuttle.

He said that they grew well on a few wet, newspaper strips and sprouted after a week but suddenly died. His class compared them to the healthier seeds that were kept on Earth.

The project caused his students to critically think about what happened.

"We started talking about the process," Corpuz said. "Let's think about it."

Before the science fair, Harris science teacher Autumn Nguyen had her students build small paper rockets that often flew more than 50 feet. One rocket landed on a roof while some shot straight up in the air and then dive-bombed to the ground, to the students' delight.

"I want them to be able to see that science is a process and about exploration," Nguyen said.

Student Edwin Ganas said that the secret to a good rocket is the weight of its parts.

"It's pretty cool," he said about the program. "I might be a pilot."