

Science Stars Sought

Schools push field to match market demand

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Staff photo by Danny Drake

Greyson Sapiro, 9, Raphy Hoang, 9, and their fellow students in Kelly Hunt's fourth-grade gifted-and-talented class race vehicles powered by mousetraps at the Joyanne Miller School in Egg Harbor Township. The races are part of a lesson on Newton's Laws of Motion.

For the first time in seven years, the Somers Point School District will hold a science fair.

Craig Barnabei, chairman of the district Parent Connection Committee and a computer engineer, helped revive the March 14 event in an effort to spur interest in STEM — the acronym given to the studies of science, technology, engineering and math.

"The growth in the future (job market) is going to be in math, science and engineering," he said. "The country is filling out so many H1-B visas because there aren't enough trained U.S. citizens."

STEM education is getting increased attention at local, state and national levels. President Barack Obama has mentioned it in three State of the Union addresses, this year calling for more STEM-focused high schools.

The budget cuts that took effect March 1, however, negatively affect support for the industry. The National Science Foundation will award 1,000 fewer research grants and awards, effectively "curtailing critical scientific research," according to a budget fact sheet released by the White House.

The decrease in federal funding counters the increased local and state interest.

Almost 700 projects from 39 area schools have been registered for the annual Jersey Shore Science Fair at Richard Stockton College on March 16, compared with about 200 projects from six schools several years ago, Director Catherine Jaggard said.

Both Stockton and Atlantic Cape Community College are building new science buildings. Last week, Atlantic Cape's trustees approved a new associate in science degree in mathematics.



Interest starts in elementary schools, where educators look for fun ways to engage students in STEM concepts.

Kelly Hunt has been incorporating STEM for years into the gifted-and-talented fourth grade curriculum she teaches at the Joyanne Miller School in Egg Harbor Township. Last Monday, students tested Newton's Laws of Motion by building mousetrap cars and competing to see whose could go the farthest. District transportation workers got involved with vehicles that

included a mousetrap-powered school bus.

"Newton's laws affect everything in life," Hunt said.



Mikki Pomatto, 9, preps her mousetrap-powered vehicle during a competition at the Joyanne Miller School in Egg Harbor Township. See gallery of photos from the mousetrap races with this story at PressofAtlanticCity.com.

Staff photo by Danny Drake

The dragster-like mousetrap car built by Mikki Pomatto, 9, with help from her father, broke the school record by going more than 102 feet. Pomatto said she understood Newton's laws a lot better after working with her dad on the car, which took about two days and featured personalized touches, such as a zebra driver and paint job. Hunt said she encourages parents to participate to make the process a family event. Even students who did not win learned how to improve their cars.

The excitement from the experiments is the attitude that will spark interest and kick-start critical thinking, an important skill for adult life, Somers Point's Barnabei said.

The state is considering spending \$900,000 to help more school districts engage in STEM fields, said Jennifer Sciortino, spokeswoman for the state Assembly Democrats office.

A bill in the Legislature, which was approved by the Assembly and awaits a vote in the Senate, would develop a pilot program in the Department of Education to award six one-time grants of \$150,000. Schools would provide 25 percent matching funds and secure a 25 percent match in private corporate donations.

Grants would be awarded to two districts each in North, Central and South Jersey, which would be required to use the funds in grades nine through 12 within four years.

"STEM fields are less popular amongst the students in this country. We can help raise interest and opportunity to explore these areas with quality programming and grant funding," said Assemblywoman Celeste Riley, D-Salem, Gloucester, Cumberland, who sponsored the bill.

A 2011 report on STEM jobs by the Georgetown University Center on Education and the Workforce predicts New Jersey will need 248,250 STEM jobs by 2018, up 10 percent from 2008. About 93 percent of the predicted jobs will require post-secondary education and training. The National Science Board's 2010 Science and Engineering Indicators showed only 5 percent of American college graduates major in engineering. However, in Asia, about 20 percent of all bachelor's degrees are in engineering. In China, the number is 33 percent.

The Somers Point science fair, like those in dozens of area schools, can help revitalize interest in those areas.

Barnabei said that by allowing students to choose the topics they want to know more about, they are opening their minds to the scientific process.

Erin McCartney said that when she first asked her son, Luke, 9, about participating, he was reluctant, but they were able to brainstorm an idea that would include fun and learning.

"I am testing different surfaces for my most special toy, the Beyblade," Luke McCartney said.

Beyblades are spinning tops, based off a Japanese animated series, and are used in "battles" with other players, or "bladers."

Luke decided to test his spinning top on ice, cardboard, glass and plastic. His experiment will record the average spin time, out of three spins, on each surface to determine which surface gives him the longest spin.

"It's fun, because we get to decide on a topic rather than get assigned," he said.

Barnabei's son, Derek, 9, said his experiment will include the study of astronomy, a topic in which he has a keen interest. In doing the research, he has become more aware of the asteroid 2012 DA14 orbiting near Earth and learned that meteors are made of black metal and ice, he said.

Barnabei said he has seen an overwhelming response for this year's district science fair and hopes to send students into regional and state competitions in the next few years.

Jennifer Luff, curriculum coordinator at the Jordan Road School, said students in grades four through eight can enter. Thirty project applications were submitted.

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