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Students as scientists

*Afterschool program focuses on space,
electricity and simple machines*

By Nell Zolot
Correspondent

Kids who stick around after school take part in many activities involving sports, the arts and education. At the Stanley School, 20 are participating in a new enrichment program called "Know Atom: Science, Technology, Engineering and Mathematics at the Elementary Level."

"Know Atom focuses on melding content and inquiry for seamless S.T.E.M. learning," Principal Pamela Angelakis said before the School Committee on Dec. 22. "This system is designed specifically to meet the needs of the Massachusetts Curriculum Frameworks. Students take on the role of many different scientists — astronomers observing our solar system, ecologists exploring food chains and engineers designing boats. Students are engaged in hands-on interactive lessons which lead to in-depth conversations using science vocabulary and application of skills and concepts."

The program has two classes — one for first- and second-graders, and another for fourth and fifth grade. Topics for the younger students include the solar system, flower power, prey and predator, moon and sun, the living earth, walls and dams, inventions, and balancing boats. Topics for the older students include becoming a scientist, measuring matter, digging into soil, living cells, plant and animal life cycles, types of electricity, magnetic fields, sound waves, simple machines and light and color.

There are plans to develop a comprehensive evaluation tool that will examine content and performance. With two other after-school science programs coming up, Angelakis wants to determine whether a more general interest in science, specific interest in Know Atom or other factors are driving participation.

Data will include fifth-grade science MCAS scores of those who took Know Atom.

"I'm interested in following this cohort to see if it has an impact," Angelakis said. "They'll take the science MCAS for the first time in fifth."

The program may be coming to other schools. Among the goals for this year are to secure funding to continue the program at Stanley and expand to the Clarke and Hadley schools for 2011-12.

Know Atom runs 2:30-4:30 p.m. on Mondays. It makes for a long day for students and teachers. Yet, the program has proven very popular.

"There was a waiting list to get in," Stephens said. "I've gotten a lot of positive feedback from parents and all we hear the kids ask me, 'What are you going to do next Monday?'"

Superintendent Lynn Celli said she is waiting for a final evaluation to render an opinion, but said she likes the anecdotal evidence she's seeing. "Pam said the kids are excited," Celli said.

"A lot of the kids are continuing on to the spring session," Angelakis added. "The reaction I see is that the kids are engaged. I have no other se

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Stephens, and fourth-grade teacher, Susan Cresta. Stephens called the program "fabulous."

"It really gets them interested in science. It's hands on and very easy to understand. They get to do their own thing."

"It gives the kids really interested in science a chance to go independently," Angelakis added. "They're so engaged. It's amazing."

Funded through a grant from the Gelfand Trust, Know Atom provides the teachers with self-contained lessons. "Everything you need is given to you," Stephens said. "I just look at the lessons and go." The unit on flower power even included flowers.

The curriculum includes easy-to-read reviews of each unit's scientific content; step-by-step instructions to carry out activities; optional one-page lessons that make connections between science and other subjects; resource documents that students can use to review a unit's content and vocabulary; and links to articles, websites and video to supplement topics.

MCAS score improvements?

It's too early to tell what effect Know Atom has on academic performance.

"This is experimental," Stephens said. "It's never been taught in this setting before. We hope it will improve performance. It's interesting to see how much information the students retain. As far as I can see they do because it's a lot of fun."

Share Your Special Day

...common zone, waking up early graders stepping out of their the impact of 400 eighth-Boston. It was amazing to see lives of 10,000 children in end of the day, we changed the found out that together, at the "When we were done, we thing went fine after that and made me giggle; every- friends started cheering me on turn to report, one of my new other kids, but when it was my front of the governor and 400 the scary to stand up and talk in to report back, and it was a li- "I was one of the kids chosen what we did.

learned from our project and everyone about what we from each location reported to from our projects, two kids briefly. After we all returned myself and talked to him governor, but I did introduce to have a conversation with the I never actually got a chance that was funny.

doing. We yelled our "FIRED UP!" routine and they thought

Grade 8 students, Molra Landry and Swampscott and Nahant during Pre

