by Elizabeth S. Leaver | March 7, 2011

# Stars Come Out for Acton-Boxborough Fourth Graders

A-B PIP facilitates events to promote science, math, engineering and technology in daily life.

The stars aligned last Thursday night for Acton and Boxborough fourth graders, whose science curriculum came to life by way of astronomy-related demonstrations, presentations and hands-on activities.

The ninth annual Acton Star Party was held at the Parker Damon Building, where an estimated 400 fourth graders and their parents braved temperatures that dropped into the teens to participate in a variety of events and activities. A school event supported and co-sponsored by the Acton-Boxborough Parent Involvement Project (PIP) and the Amateur Telescope Makers of Boston (ATMoB), the party provided an entertaining and interactive opportunity for the students to expand on the astronomy in their schools' curriculum.

Event founder Steven Feinstein said he first conceptualized the Acton Star Party about 10 years ago as part of an effort to generate support for an outdoor lighting bylaw while he served on the Acton Outdoor Lighting Advisory Council, and approached Eileen Sullivan, Acton-Boxborough Elementary Curriculum Specialist, about the possibility. As a member of ATMoB, Feinstein said he recognized the group's interest in outreach and "potential to take our star party to another level."

"Amateur astronomers love their craft and they love to share it and talk about it," Feinstein said. "Outreach is a big part of what (ATMoB) members like to do."

Presentations and exhibits—which have expanded over the years to the point that "I believe this is the largest star party on the east coast," said Feinstein—included an interpretation of Galileo's "Siderius Nuncius" by Stars Science Theater founder Mike Francis, who answered audience questions while in character; STARLAB, a portable, inflatable planetarium that held groups of about 30 students at a time for presentations on the stars; a standing exhibit with a tire from the space shuttle landing gear, a 70-pound meteorite, and scales that allowed participants to see how much they weigh on different planets and the moon; and, of course, telescopes—six in all, all provided by ATMoB.

Several editors of the Cambridge-based Sky & Telescope Magazine also attended, including editor in chief Bob Naeye, who gave a presentation about NASA's Mars rovers, "primarily (showing) that liquid water once existed on the surface, meaning Mars may once have developed life," Naeye said.

"I talk about the mission, the scientific objectives, what scientists have learned about Mars," added Naeye, also an ATMoB member. "I want the kids to come away (from the presentation) with the idea that space exploration is incredibly exciting and that when they grow up, they can take part in it."

Each activity was designed to expand on the existing fourth-grade curriculum, as well as to introduce new ideas and concepts to the students, said Sullivan.

“The fourth grade classes all study the solar system as part of their science curriculum, but this (evening) really takes it beyond that,” she said. “It really enriches what we’re able to do in school.”

For their part, the students and their parents enjoyed the variety of experiences, with many gravitating toward the basics—the stars themselves.

“My favorite part was the telescopes,” said Alexander Reine, 9, who attends Douglas School.

Blanchard Memorial School student, Chris Duncan, said “everything was fun” and that he especially enjoyed the Sky & Telescope presentations and looking for constellations outdoors.

“It’s a little cold but it was really cool to find Orion’s Belt and the Big Dipper,” he said.

**PIP promotes, encourages using science and math in everyday life**

In addition to its co-sponsorship of the Acton Star Party, the A-B PIP, a volunteer organization of parents, educators and community partners, has sponsored or facilitated many other local science, technology, engineering and math (STEM) activities and initiatives in the hopes of providing students with opportunities to explore and utilize those disciplines.

Started in 2000 as part of a Department of Education initiative, PIP has evolved over the years from an elementary-level program to one that includes students from Kindergarten through high school, said Karen Herther, longtime PIP organizer and co-chair.

“Our goal is to really inspire interest (for students) in real-world STEM applications,” Herther said.

Herther’s co-chair, Acton School Committee Chair John Petersen agreed that PIP’s primary aim is to promote enhanced interest in math, science and technology as well as to “encourage (people) to look around them and appreciate the STEM concepts that go into everyday life.”

“Sometimes math and science can seem a little separate from people’s lives, and they think it’s abstract, but it’s not,” said Petersen. “People aren’t necessarily aware of the engineering, science and technology that go into their lives in a daily way.”

Petersen cited the recent Market Math event at Roche Bros., in which third and fifth graders participate in various activities like "M&M math" and grocery scanning, as an example of an initiative "structured to have children working with their parents that encourages them to use math in an everyday kind of way."

Activities that fit the premise for PIP participation or co-sponsorship include "basically anything that's engaging and hands-on that's STEM related," said Herther, adding that, "A lot of the events we do at this point are annual and established. And whenever possible, we try to collaborate with the A-B schools to dovetail our programs to fit the school curriculum."

According to Herther, other recent or upcoming PIP-sponsored or co-sponsored events and initiatives include "Acton, Naturally," a recently published nature guide featuring species indigenous to Acton; Discover STEM, a showcase of interactive exhibits by engineers, scientists, and technology professionals; and In Control Advanced Driver Training, a crash prevention course in which students explore the physics of driving while participating in hands-on exercises.

What's more, said Herther, programs for high school students like the A-B Robotics Team, which recently won a design award at the For Inspiration and Recognition of Science and Technology (FIRST) Tech Challenge, and ongoing PIP volunteer opportunities give older students "the chance to really go full circle with STEM activities."
"At this point, some kids who participated as elementary students are now high school (PIP) volunteers," said Herther. "Having it go full circle like that is really exciting."

One such student, Danny Sherman, recently earned a PIP Lead Volunteer Service Award and scholarship for his years of PIP volunteer work. Now a freshman at the University of Rochester, Sherman, 18, credits his involvement with PIP for exposing him to the many possibilities offered through STEM-related pursuits and said his participation in PIP initiatives over the years informed his decision to pursue a degree in chemical engineering.

"I was involved (with PIP) probably from the time I was in sixth grade and it definitely gave me a different perspective on STEM," said Sherman, adding that his favorite PIP event, Discover STEM, "had really cool exhibits that really showed what people did with their degrees, as opposed to just learning about them in school."