

The Voyage

Paul Cuffee School 🚢 A Maritime Charter School for Providence Children 🚢 Winter 2013 🚢 Vol. II, Issue 2

Focus on STEM Plants Seeds for Achievement in Math and Science

AS THE GLOBAL ECONOMY BECOMES more technologically oriented, increasing achievement in science, technology, math, and engineering (STEM) has become a national priority. The Obama Administration's Educate to Innovate initiative seeks to provide students with "the skills they need to excel in the high-paid, highly rewarding" STEM fields.

Paul Cuffee School has always had a strong focus on math and science, and the school continues to advance STEM curricula across grades. Math problem solving, science inquiry and writing, and the addition of a new marine science course at the Upper School are some of the key areas noted in the PCS School Improvement Plan. Curriculum goals in STEM include:

- 🚢 Convene a science committee to align curricula with the new multi-state Next Generation Science Standards.
- 🚢 Provide professional development for teachers, expert instruction for students, and hands-on learning opportunities outside the classroom.
- 🚢 Instill in students the tenets of scientific inquiry, mathematical thinking, and problem solving.
- 🚢 Build students' skills in developing scientific hypotheses and researching, evaluating, and communicating findings.

Among other means of achieving these goals, PCS has hired a STEM Specialist to reinforce learning. In this role, Stacy Gale heads the Lower School's science curriculum committee in addition to providing direct instruction to help students build a solid foundation of knowledge in STEM fields.

Gale has a wealth of experience to draw from for instructing and inspiring students. Over the summer, she became an Educator at Sea aboard the exploration ship *Nautilus* in an



STEM Specialist Stacy Gale prepares to Skype with PCS students from aboard the Nautilus.

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ALUMNI SPOTLIGHT

Off to Yale, Jamie Cooper Offers Advice for Student Success

"To me, success is not going to the most prestigious college. I think it is a combination of satisfaction and knowing you worked hard; you deserve to be where you are."



PCS alumna Jamie Cooper had these and many more inspiring words for the assembled group of PCS fifth graders she addressed last spring. Cooper spoke with students about her experiences at PCS and at Classical High School, as well as about her college expectations.

When Cooper graduated from Classical last spring, she was not only class president but also the valedictorian. This fall she entered Yale University as a freshman. Her determination, drive, and willingness to take on new challenges—all developed while at PCS—are part of what led to her success. "If you stay in your comfort zone, you don't get to experience much," she told students. "I tried to get out of mine."

Cooper noted the role of PCS in preparing her for academic success. Cuffee "was very important for me," she confided. "I got a good base in math and English. I still remember Ms. García's English class and the Utopia project. Also, the diversity in the school and meeting people different from me were valuable."

Cooper's one regret was not taking more advantage of the opportunities offered in ninth grade. "I did not jump into the high school experience immediately, so I stayed quiet," she says. She has certainly made up for that since, and her plans while in college are expansive. "I have so many interests: English, creative writing, literature, social justice programs, psychology..." While in college, she says, she plans to "do a lot of things!"

Her final advice to students? "Work hard in your classes at PCS, they are challenging without being overwhelming." 🚢

STEM Curriculum *(continued from page 1)*

oceanography program headed by famed explorer Dr. Robert Ballard (who found the *Titanic* and the *Bismarck*, among many other accomplishments). She joined scientists, engineers, and others in a journey to explore the deep sea and report findings to schools, museums, and the public in real time.

The STEM Specialist is just one aspect of the school's strategy in preparing students for success in STEM. Another key element is the concentration on sparking student interest in core subjects through hands-on learning. Fol-

lowing are just a few examples of recent activity:

- ▴ For a project on food and food waste, students not only researched and presented findings but also created a system to compost food scraps to nourish a new school vegetable garden.
- ▴ After a visit from Rhode Island Resource Recovery Center staff, Lower School students were inspired to revamp the school's recycling program.
- ▴ Third graders visited the Field's Point Wastewater Treatment Facility to conduct water testing, create a model watershed, and observe the impact of pollution.
- ▴ Fourth graders hatched trout eggs to observe the fish life cycle and the effects of environmental changes, then released the fish into the river.
- ▴ Students from all three campuses worked with the Woonasquatucket River Watershed Council to learn about pollution, clean up the river and area surrounding PCS, and create signage to educate the public about the environment.

PCS has also continued to bring professionals into the classroom to discuss STEM topics and careers. For example, through a partnership with the Narragansett Bay Commission (NBC), students visit various NBC facilities and also receive monthly in-class instruction



Civil and environmental engineer Ymane Bouramia discusses water resource management with Lower School students.

from NBC staff. In October civil and environmental engineer Ymane Bouramia visited the Lower School to discuss her work in water resource management. Students discovered how water is made available for drinking and other uses and learned about possible career choices in engineering.

Through hands-on learning and engagement by professionals both in and outside of the classroom, PCS is helping students in all grades gain a solid foundation in STEM. No matter what path students choose to pursue once they graduate, this foundation should serve them well. ▴



Third graders learn about water purity and the impact of pollution at Field's Point Wastewater Treatment Facility.

Your Gift Enriches Our Students' Education



The Paul Cuffee Annual Fund has reached \$30,000 or 20% of our \$150,000 goal.

Donations made to the Annual Fund pay for curriculum-enhancing extras that make PCS such a special place: new books and technology, theater and arts programs, marine exploration,

field trips to museums and nature preserves, college visits, sports programs, and more.

To support the Annual Fund, you can donate at www.paulcuffee.org or send your contribution to Paul Cuffee School Annual Fund, 459 Promenade Street, Providence, RI 02908.

The PCS Annual Fund fish earns a second stripe, indicating a new milestone in funds raised for activities and materials that enhance learning at all grade levels.

PCS Models Success for Visiting Educators from Shenzhen

A DELEGATION OF 24 TEACHERS AND PRINCIPALS from Shenzhen, China, recently visited Paul Cuffee Lower School to learn about its organization, curriculum, and school life.

The group toured each classroom and spoke with students, faculty, and administrators to find out what makes the school a success.

The delegation was seeking information about the U.S. K-12 educational system, including administrative structures and new and effective teaching methods that contribute to student success. Of particular interest are charter schools; the visiting educators inquired into what makes a charter school different and the protocol for starting one.

Interim Lower School Principal Derrick Ciesla, who is in the process of applying for a charter to start a new elementary school, discussed the applica-


tion process, the design of a curriculum specific to the student population, and regulatory and financial challenges. School social worker Tara Sczerbinski spoke of Paul Cuffee's emphasis on individualized instruction, educating the whole child, and supporting students' social and emotional health.

The school's small classes and child-specific learning opportunities intrigued the visitors. They noted that class sizes in Shenzhen schools ranged from 48 to 100 and that classroom instruction is more formal than what they saw at PCS.

The delegation was hosted by Brown University's Education Department. The Shenzhen educators spent



PCS 5th grader Declan O'Hare demonstrates his solution of a math problem for visiting teachers.

a month in Rhode Island learning at Brown and touring a variety of schools and school systems. 



Paul Cuffee School hosts a delegation of educators from China seeking to learn about U.S. charter schools.

STEM Wish List

Among the ways our community helps enrich the school is through donations of items that teachers have identified as aids to student learning. Here are some of the items on our wish list to supplement learning in science, technology, engineering, and math (STEM).

Gift cards to Target, Home Depot, Walmart, or Amazon for books, storage, and classroom supplies: Any amount

LEGO sets (regular): \$30 per set

LEGO Robotics classroom kit: \$2,500

Brandaris Maritime Partnership: \$1,600 for 8 weeks (see www.brandarismaritime.com for details)

SeaPerch underwater robotics kits: \$1,800/year for 15 kits

Bookshelf: \$100

iPads or iPods: \$150-350 each (for STEM videos to aid learning for ELL students)

To find out how to donate, contact Maria Monteiro at (401) 453-2626 or email mmonteiro@paulcuffee.org.

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Summer Learning from Block Island to Cape Verde

OVER THE SUMMER, four Cuffee seniors traveled to the Cape Verde Islands along with 19 undergraduates from the University of Rhode Island (URI) for two weeks of cultural and environmental education. The students earned college credit while learning about the island nation's rich history, culture, and environment.

Partnering with a URI program and directed by Cuffee Board member Earl Smith, students learned about eco-tourism—the theme of this year's program—by visiting culturally and historically significant landmarks, interviewing local residents, and talking with community and government leaders about the impact of tourism on the local economy and way of life. Students even had a chance to meet with Cape Verde Prime Minister José Maria Neves.

The Cape Verde trip was one of a number of summer learning opportuni-



Upper School students learn maritime skills through the Herreshoff Seamanship Program, one of PCS's many summer enrichment opportunities.

ties available through PCS. Programs ranged from the Summer Academies to help Lower and Middle School students hone their math, science, and humanities skills to enrichment programs like the Block Island Maritime Institute and the Herreshoff Seamanship Program, through which Upper School students explored sailing, marine biology, and maritime history. 🚤