Community Resources for Science News

Weaving connections among teachers, students & science in the Bay Area

Volume 13, Issue 1 Newsletter, Spring 2015

Celebrating Excellence in Science Teaching

Science teaching and learning is on the upswing in most of the 130+ schools CRS serves, with more young students having increasing opportunities to explore the mysteries of caterpillars, solar energy, magnets, and much more.

Each year CRS encourages teachers to "up their game" by meeting the best practices set forth in our Science Super Star Challenge. We are delighted to congratulate and recognize this year's nearly 100 honorees at 23 schools for Excellence in Elementary Science Teaching.

Discovering what's inside pea pods during a "Botany On Your Plate" lesson

These teachers led hands-on science investigations that embodied the practices of science and engineering. They also took field trips or had in-class science presentations and participated in professional development and planning to connect science across the curriculum in their classrooms.

Congratulations! (Full list of this year's honorees below, and details at: http://www.crscience.org/educator/SSS2015)

Thanks to generous contributions from partner organizations and publishers, we will be delivering a wide range of recognition prizes to these teachers and schools which are serving as models for effective integration of science teaching and learning into their elementary programs. We will be giving every student in every winning classroom a science-themed book of their very own – that's over 3,000 students this year! And, teachers will receive classroom prizes ranging from book sets, science teaching materials, field trips, museum or zoo admissions, microscopes, and more. (See donor list on page 4.)

In addition, several schools earned the coveted "whole school" recognition, which will bring them whole school assembly presentations or visits from scientist teams from Clorox or Bayer.

Spring Giving Goal

$10,000

Join us for East Bay Gives

May 5

Details on page 3

Whole Schools:

- **Chabot Elementary**, OUSD
- **Melrose Leadership Academy**, OUSD

Oakland Unified School District

- **Allendale Elementary**: Meaghan Matsuoka
- **Bridges Academy at Melrose:** Ann Park, Soo Hyun Han, Jessica Jung, Gloria Garcia
- **Brookfield Village Elementary**: Christina Economou, Bernadette Breen, Corinn Haskell, Yitera Martin, Janie Naranjo-Hall, Emmanuel Tecuatl
- **Burckhalter Elementary**: Meghan Whitacre
- **Cleveland Elementary**: Susan Tajima, Rosemary Robinson, Mary Schriner, Janet Lau, Ioanna Kollias, Mary Loeser, Teresa Auyoung, Jill Schalet, Y Luong, Kathleen Byrnes
- **EnCompass Academy**: Sarah Swanson-Hysell, Tiffany Louie, Liz Cruger, Katrina Jones
- **Franklin Elementary**: Lisa Lam
- **Hoover Elementary**: Shelley Grayson, Anthony Mckenzie, Micaela Morse
- **International Community School**: Nicol LaCava, Micaela Morse, Raquel Rodriguez Jones • **Joaquin Miller Elementary**: Denise Palmer, Kira Gleghorn, Kathryn Ulrich, Amanda Lockwood, Ifetayo Hill-Roy
- **Lafayette Elementary**: Timothy Demry, Arvella Hayden, Carmen Hendon, John Morgan, Josie Sommer, Sharon Travers
- **Laurel Elementary**: Melissa Gale, Lena Why
- **Lincoln Elementary**: Rob Fong, Allison McGuirk, Maria Montonaga
- **Manzanita SEED**: Leonardo Reynoso
- **Markham Elementary**: Elizabeth Cooke, Nikita Gibbs
- **Martin Luther King Jr. Elementary**: Janet Connors, Pali Ouye, Jason Polastri, Judy Washington, Michelle Williams
- **New Higland Academy**: Tracy Dordell
- **PLACE at Prescott**: Constance Cobb-Zunino, Cicely Day, Natalie Pitre, Lorraine Mann, Adriana Guadarrama

Berkeley Unified School District

- **Berkeley Arts Magnet**: Kristine Fowler
- **Cragmont Elementary**: Cherene Fillingim-Selk, Kathleen Giustino, Sara Ellberg, Eleanor Tiglao
- **Washington Elementary**: Mindy Geminder, Janine Waddell

Emery Unified School District

- **Anna Yates Elementary**: Connie Bi

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What do Robots, Owls, Space, and Donuts Have in Common?

CRS Spring Field Trip for Teachers & Resource Fair

On a sunny Saturday morning in March, Chabot Space and Science Center was bustling with activity as representatives from 21 partner organizations greeted teachers who arrived for the Science Education Resource Fair that was part of our spring Field Trip for Teachers.

During a special teacher-only time, attendees were able to nibble on donuts and chat with science experts from a range of museums, outdoor education, professional development, and other organizations about the programs and services they offer for students and teachers.

Teachers examined specimens and materials used in educational programs

Teachers learned about animals from Lindsay Wildlife Museum, the Oakland Zoo, Sulphur Creek Nature Center, and the Natural History Museums of UC Berkeley. They explored space with Chabot Space and Science Center and the Astronomical Society of the Pacific. And, they magnified their vision with a nifty iphone CellScope developed by a CRS BASIS volunteer.

Other organizations on hand included: California Academy of Sciences, Marine Science Institute, CREEC, Point Bonita YMCA, East Bay Regional Parks, CSU East Bay, Promoting Energy Action & Knowledge, California Coastal Commission, Oakland Museum of California, the Exploratorium, and KQED Learning Media.

A highlight of the day was a lively talk by the amazing and prolific children's science author Jon Scieszka (*Math Verse*, *Science Curse*, *The True Story of the Three Little Pigs*, and the *Frank Einstein* book series). Jon shared about his adventures and love for all things science and nerdy as a kid, and about the winding process that led him from pre-med studies, to classroom teaching, to writing science books for kids. Attendees also received a free preview copy of the newest science and engineering themed book.

Chabot Space and Science Center wowed the attendees with some amazing fire demonstrations, and shared about the many programs and services they offer to bring science support to schools and teachers.

After a tasty light lunch, teachers were free to continue to explore the museum exhibits and public programs at their leisure. Many teachers walked away with prizes including digital cameras, museum passes, and even free field trips and school programs!

Thank you to our amazing partner organizations, and especially our host Chabot Space & Science Center!

Paper airplanes, Jelly Beans, and Dancing Oobleck, all in the Name of Science

This semester, 7th grade classrooms at King Middle School in Berkeley were once again bustling with unconventional activities as students donned noseclips or blindfolds to taste foods such as yogurt or candy, or worked with mentors to test metal-salt solutions for flammability, or sent paper airplanes or mini cars zipping along. It was all part of the innovative Be a Scientist pilot program, developed with UC Berkeley Professor Mary Wildermuth, in which Cal grad students and post docs guided each 7th grader through the process of conducting their own scientific investigation.

For six weeks, 37 enthusiastic Cal mentors from a range of science and engineering disciplines came to King to meet with small groups of 7th graders, helping each student to successfully navigate each step of a scientific investigation on a self-selected topic. This was the second semester of the pilot year for the program. Over the course of the 2014-15 school year, a total of 64 Cal mentors worked with more than 300 King 7th grade students.

The volunteers exceeded our expectations, staying after class to talk with teachers and students, taking time to purchase supplies or bring them from their own labs, and testing experiments outside of class to make sure they were feasible and safe!

Spring 2015 mentors: Claire Kunkle, Jordan Axelson, Sarah King, Allegra Liberman – Martin, Erika Warrick, Nicholas Esker, Carrie Levine, Amy Tresenrider, Ben Adler, John Canty, Mark Pavlin, Nicholas Brickner, Yongling Yao, Maria Tonione, Leah Rubin Shen, Alex McInturff, Allegra Mayer, Ben Ricca, David Garfield, Despina Lymperopoulou, Elena Kassianidou, Emilia Esposito, Kevin Pollock, Jessica Nichols, Yuxin Zhang, Erin Brandt, Essma Redouane, Han Teng Wong, Kevin Ding, Veronica Huang, Rachel Woods-Robinson, Rebecca Triano, Riva Bruenn, Tess Scavuzzo-Dugan, Yeonbae Lee, Katie Pfeiffer

7th grade students examining results from an experiment with their mentor from UC Berkeley

Keep Science Thriving in Schools: Spring Giving Goal $10,000!

It takes a lot of marbles, tape, baking soda, LED lights, mini-bug robots, plant seeds, and other supplies to keep a great science education program running! Help CRS to reach our Spring fundraising goal of $10,000!

On May 5, join with thousands of community minded people in the East Bay by making your online gift to CRS through the East Bay Gives campaign. For every gift received, CRS will be entered in a special raffle for a chance at additional funds, meeting space, and other prizes!

Please help CRS keep exciting science and engineering learning happening in local elementary schools!

Students explore the magnetic properties of cereals fortified with iron

In the words of one of our teachers:

"Teaching science is about helping students understand how the world around them works. From what happens when you make pancakes to why you need sunlight to grow a garden, science helps students make sense of their lived experience and exposes them to life beyond their own community. CRS is such a valuable resource - especially their BASIS program which brings real-life scientists into public school classrooms like mine to "do science" with students. The hands-on lessons that they tailor to the needs of each classroom allowed my students to make sense of some difficult science concepts we've been studying this year."

www.crscience.org/events/SpringGiving

Consider these examples of *what your donation could do this year*

$75: One science visit to a class of 25 – 30 students
$100: Customized support for 10 teachers, impacting science learning for 250 – 300 students
$250: Training sessions for 10 – 15 volunteers
$500: Field Trip for Teachers Event
$1,000: Workshop stipends for educators
$1,500: "Day of Science" event for the entire 6th grade at one school

To make a donation, go online to ***www.crscience.org/donate*** OR mail your check and the form below to:
Community Resources for Science / 1611 San Pablo Ave. Suite 10 B / Berkeley, CA 94702

Name:_____

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I/we would like to be acknowledged as follows:_____

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Thank you to our 2015 Partners, Donors & Supporters

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Donations from Sept. 2014 through March 2015

Students use luminol to detect the presence of iron in synthetic blood

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Thank you to Patxi's Pizza, Marina, San Francisco, for their generous donation of over $600 to CRS through their community giving program! And thanks to everyone who joined us at Patxi's on April 2 to eat delicious pizza to benefit science!

During 2014-15 school year:

CRS served **1,370 teachers** at over **135 schools**
540+ BASIS volunteers
10,000 students enjoying BASIS in-class lessons

Curiosity, Discovery, Inspiration

Questioning, tinkering, testing, and exploring – elementary children share many traits with scientists and engineers. Somewhere along the education pipeline, too many students fall away from that early, natural inclination to wonder about the world in which they live.

For years, as students progressed to upper grades, science in school was relegated to lists of vocabulary words, following instructions, and getting the "right" answers on experiment results and tests. The magic of discovery replaced by drudgery and a sense of "not being good" at what has been labeled science.

Students take hands-on explorations seriously

Now, seeds of change sown over several years of hard work are starting to sprout a new kind of science teaching and learning in more classrooms, from Kindergarten through high school. A vision for making science – and engineering – relevant to students' lives, engaging, and exciting is beginning to take shape.

Scientists and engineers have an important role to play, advocating for strong science education and helping teachers understand and engage their students in rich, meaningful practices of inquiry and communication.

We are delighted to see examples of excellence in science teaching that have been arriving in a steady stream this Spring as teachers send in their Science Super Star Challenge materials. We've seen videos of students earnestly using words like data and evidence as they discuss the meaning of experimental results, science notebook entries describing careful observations of crayfish or moon cycles, and photos of students carefully measuring, mixing, testing.

Teachers are pushing themselves to embrace a transitioning role. Together, we can keep the momentum going, and inspire the next generation of thinkers, problem solvers, and environmental stewards.

Providing Time for Teachers to Learn, Share Together

Chatting over snacks while puzzling over group challenges, teachers have gathered throughout the year in afterschool workshops facilitated by CRS to increase their professional skills in science teaching. In classrooms abuzz with thoughtful conversation, testing new activities, or laughter at shared struggles and successes, teachers explore, learn about new standards, and plan lessons.

Our professional development efforts this year have involved teachers from more than 25 schools. Topics have ranged from specific aspects of the new science standards, elementary engineering, science fair and festivals, to literacy connections and helping students learn how to "talk like scientists." We customize the session to meet the specific needs of each school or cohort we work with.

In the West Contra Costa Schools District we have teamed up with Lawrence Hall of Science, the Bay Area Science Project, and the Berkeley Natural History Museums for a two year pilot project with a group of elementary schools eager to increase science teaching and learning. The work includes school year workshops, summer institutes with field work alongside graduate student scientists, and of course opportunities for BASIS in class presentations.

In Oakland, teachers from the four West Oakland STEM Corridor elementary schools have gathered monthly to deepen their science teaching practice, and to bring newer teachers up to speed with work that has been building over the past several years. Guest scientists have shared presentations about space, biology and climate, and energy, highlighting connections between classroom and "real world" applications.

In Berkeley, our long-standing professional development support for the teachers who serve as the science specialists for 4th and 5th grade has included explorations of new engineering lessons and ways to engage students in meaningful academic discussions.

Now is the time for principals and lead science teachers to book workshops for the 2015-16 school year!

West Oakland teachers explore the properties of soils, sand and kitty litter

Community Resources for Science

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BASIS Volunteers Inspire Exploration

Each school year, the enthusiastic scientists and engineers who volunteer through the BASIS (Bay Area Scientists in Schools) program bring their passion for exploring questions and tackling challenges directly into local classrooms. Together they make over 450 presentations, sharing with and inspiring over 10,000 young students! To celebrate this impact, CRS hosted a volunteer appreciation event at the Exploratorium in April. Thank you to all our amazing volunteers for another great year!

Bruce Alberts greets BASIS volunteers following his inspiring, well-attended talk at UC Berkeley on the importance of scientists working together with teachers to give young students meaningful science learning experiences. From left: Teresa Barnett, Bruce Alberts, Ashley Gibb, Allison Schwartz, Kate Alfieri, Erin Creel, Elizabeth Ferrer, Rachel Woods-Robinson, Robert Bergman

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