



Community Resources for Science News

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

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Newsletter, Spring 2012

We do this every day: Inspiration in the classroom

Every school year our mailbox and our email inboxes are flooded with letters, pictures, and cards from the students and teachers who receive BASIS volunteer lessons. We have seen many science journals, 'portraits' of BASIS scientists, and diagrams of solar cell cars and flowers. We also hear from scientists about the joy of sharing science with children. Here is a story we would like to share:

As told by Miriam Bowring, Chemistry PhD Candidate, Bergman/Tilley Lab, former classroom teacher, and long-standing BASIS volunteer

Three of us chemistry graduate students, Kurt, Willie, and I went to Aija Simmons' class in Oakland. It was clear to us from the moment we opened the door that Ms. Simmons is an outstanding teacher, because she was *whispering* to a classroom full of fifth graders about grammar and they were paying rapt attention.

As we started our lesson, the students were remarkably well-behaved, while their scientific curiosity was unchecked – it is not easy to teach ten-year-olds how to follow behavioral rules but question the world unrelentingly.

The students were asking and answering questions confidently. One tiny girl named Marvelle* was especially astute, coming up with the theory of surface tension based on her own experiments with a cup of water and a piece of pencil lead.

I asked my typical two questions: "What do you see? Why do you think that happened?"

Marvelle spoke quickly, "Well, the pencil lead falls through the water when you put it in vertically but it floats when you put it in horizontally. That must be because all of the weight of the lead rests on just a

few water molecules when it's vertical, but when it's horizontal, the weight is spread out."

Ms. Simmons participated with excitement in the scientific experiments alongside her students. In the next experiment, we offered the students droppers of oil, water, and soap.

Marvelle saw that the oil and water did not mix,

but when she added soap, they did. Once again, she quickly deduced the molecular underpinnings. "Now I need to see what happens when I do just oil and water, just soap and water, and just oil and soap," she told her lab partner.

At this point, I turned to Kurt and put my hand on his shoulder. He looked at me, tears in my eyes, and asked what was wrong.

[Continued on page 2]



Above: Students working on the Chemistry of Soap lesson in an Oakland classroom

**student name has been changed*

Attention Teachers!

This spring, in an effort to go green the CRS Science Resource Guide is only available online.

Go to www.crs-science.org/ResourceGuideMay12.pdf to find information on:

- Field Trip & Program Deadlines
- Grant Deadlines
- Professional Development Opportunities
- New Science Exhibits

Don't have time to check out the resource guide right now? Bookmark it and come back later!

Field Trip for Teachers: Into Nature at Lake Temescal



The rain poured down on a gray March afternoon, but it didn't dampen the spirits of the teachers who came to the Lake Temescal Beach House to meet with CRS support staff and to learn about the educational offerings of the East Bay Regional Parks. Naturalists from each of the Nature Centers shared artifacts and adorable animals while providing information about their many services and programs.

David Zuckerman, Tilden Park Naturalist (pictured above and right with Nancy Kaiser), treated us to a slide show about

the history of the East Bay Regional Parks District (a brave undertaking in roomful of 3rd and 4th grade teachers who know their Bay Area and California history!).

Inspiration in the Classroom

[Continued from Page 1]

"This girl is just so smart!" I whispered.

As we packed up our supplies to leave, Marvelle tugged on my sleeve.

"Miriam? Will you sign your autograph? I want to show my mom! She'll be so happy."

I wrote, "I hope you become a scientist," and signed my name.

Ms. Simmons asked us, just as we were walking out the door, if we could tell the class specifics about our own research projects. No teacher had ever asked us this before. I went first, then Willie – the students were polite and interested. Finally it was Kurt's turn and he blew us all away. He was able to describe his research on water oxidation catalysts in such a way that the entire room of fifth graders was convinced it was the coolest and most important thing you could do.

We finally made it out of the room after that, but the inspiration I got from Marvelle, Ms. Simmons, and Kurt will stay with me throughout my career as a scientist.

Kudos to Anna Henry from Crocker Highlands, who used our Field Trip for Teachers as a chance to meet with her group of new Oakland Kindergarten teachers; they networked and even welcomed new Kindergarten teachers from other districts into their conversation. If you have a networking group in your district, please invite them to attend our next Field Trip for Teachers together! In addition to light dinner, wine, raffle prizes, and networking, these events provide a chance to ask questions, request support, and share ideas.

CRS By the Numbers

So far during the 2011-12 school year:

874 teacher members, working with over

21,850 students in

92 schools

409 scientist volunteers who have made

400 lesson presentations resulting in

1,200 role model interactions with over

10,000 students doing hands-on science for
a total of

2,100 + volunteer hours

Role Models Inspire

What do you want to **be** when you grow up? A simple, yet profound, question that young children face on an almost daily basis. And, for most, the answer they blurt out is drawn from either their family circle or popular celebrity culture.

A firefighter, like my dad. A teacher, like my mom. An athlete. A rapper. An actor.

Yet, few children giving these answers are actually thinking about the nature of the work involved, the tasks performed, the training required.

Rather, young kids are really answering the question: “**Who** do you want to be when you grow up?” So, naturally, they think about the people they know, or the people they have become familiar with on television and the movies.

Rarely do children answer: a chemist, an engineer, a biologist.

That’s why it is critically important to provide children with a wide variety of role models, including those who reflect the skills, training, and qualities of critical thinking that will be essential for the future job opportunities awaiting today’s children. Those jobs increasingly include scientists of all disciplines, engineers, and technicians with solid math skills.

Throughout the school year, CRS sends diverse, enthusiastic, dynamic scientist role models into local classrooms. They do standards-based “real” science with students, and provide support to teachers. But an equally important role they play is to pop the thought bubble that appears in many children’s minds when they hear the word “scientist.”

This school year, nearly 10,000 Kindergarten through 6th grade students have met some of the 400 BASIS scientist volunteers, the real women and men who come from all backgrounds but share a passion for learning about the world around them through science. Whether they explore earthworms or alternative energy, test the properties of metals or the states of matter, together the scientists and students learn, laugh, and discover.



Above: Students work with CRS Staff to build models of three cloud types during a lesson in a Berkeley school

Children ask questions about what the scientists study in their labs, what kinds of science activities they loved as kids. They’re particularly impressed when graduate students share that they are in “21st grade”! They see that scientists can be young, diverse, humorous, and fun.

The post-visit thank you letters that flow into our CRS mailbox for the scientist volunteers contain delightful drawings and countless versions of the following message: “Thank you for visiting our class and talking about what you do in your lab. Now, when I grow up to become a scientist I’ll know just what to do!”

We salute our BASIS scientists who together this school year will have made over 1,200 appearances in local classrooms, inspiring children (and their teachers), and providing one more possibility in the minds of youngsters the next time they are called on to answer the question: What do you want to be when you grow up?

--From the ED

Teachers: Help us to improve our services!

It's that time of year when we like to reflect back on the school year and ask you how we can continue to improve our services. Please help us by taking our annual membership survey.

We will conduct a drawing for a Flip video camera from all those who complete the survey by June 1, 2012.

Watch for the link in your next e-NewsBlast or visit:
<http://www.surveymonkey.com/s/Membership20112012>

Celebrating Science Super Stars

CRS is pleased to honor PLACE@Prescott Elementary School in Oakland as our 2011-12 Science Super Star School! In recognition of the commitment of every teacher at PLACE@Prescott to including high quality science learning experiences for all students, we are happy to award them our top prize: A day-long visit from the East Bay Regional Park's Mobile Aquarium (aka "The Fish Mobile")!

Congratulations to these excellent teachers, and their students, for meeting the Challenge requirements:

Soraya Brooks	Linda Fox
Janina Brown	Adriana Guadarrama
Constance Cobb-Zunino	Lorraine Mann
Cicely Day	Zerita Sharp

“The Science Super Star program initiated by CRS this year was a wonderful galvanizing tool for the staff at my school. We all jumped into the challenge, and *the result was a huge increase in the amount and quality of science education offered to students at every grade level this year.*”

--Lorraine Mann, Kindergarten teacher and lead science teacher at PLACE@Prescott



Above: Third grade students with their prizes, books about the desert donated by Nomad Press

We are also pleased to recognize these individual teachers and their students as 2011-12 Science Super Stars:

Kristine Fowler , Berkeley Arts Magnet	Allison McGuirk , Lincoln Elementary, Oakland
Anna Henry , Crocker Highlands Elementary, Oakland	Ashley Rockett , Grass Valley Elementary, Oakland
Betty Yee , Lincoln Elementary, Oakland	

CRS is delighted with the photos, science journal entries, and other samples of science learning and critical thinking in action that we have received from these classrooms! Each of these teachers will be receiving an awards package, including goodies such as field trips, museum passes, Flip video cameras, books, and science kits, to keep the science learning going!

Thank you to our Science Super Star Challenge prize partners, including: East Bay Regional Park District, California Academy of Sciences, Exploratorium, Rock Steady Juggling (in partnership with StopWaste.org), Treehouse Green Gifts, Fulcrum Publishing, Dawn Publications, and Nomad Press

Look out for next year's challenge directions and posters in the Fall!

CRS Advisory Council: Enhancing Science Education

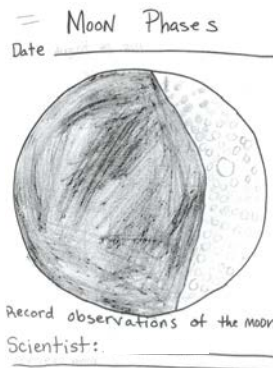
Talented and motivated people and organizations working together can make real change. This belief led to the formation of the CRS Advisory Council, and in our first year the results have been impressive. This group of dedicated thought leaders looks for ways to combine mutual strengths to increase the quantity and quality of science learning opportunities for local students.

The Council has focused on three main areas: supporting teachers, supporting and engaging principals, and promoting the importance & “coolness” of science & science education.

As a result, CRS has: created the Science Super Star program (see page 4), augmented online resources for teachers and scientists, established social media networks for sharing information, strengthened partnerships, identified curated video and online resources for teachers, expanded teacher/scientist connection efforts, reached out to more pre-service

teachers, and participated in the wildly successful Bay Area Science Festival.

In April, Claudio Vargas led a discussion about what principals need in order to support a school culture of science learning. Claudio, who coordinates elementary science for Oakland Unified School District, described the shared professional learning time that OUSD elementary principals have had this year. He emphasized the importance of understanding that “high quality science instruction” includes engaging hands-on elements *and* opportunities to “make meaning” from those experiences through other subjects and projects.



Above: Example of student work submitted as part of the Science Super Star program

We're excited to begin work with the help of the Council members on the next action steps, including developing new materials and video tools for principals and new ways to build on the teacher-scientist connections we help to jump-start.

Want to learn more? Go to www.crscience.org/about/advisors

Please help keep science thriving in local schools!



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: _____

Address: _____

City/State/Zip: _____

Phone: _____

Email: _____

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

To honor a specific teacher, please tell us his/her name, school, and address: _____



Left: Students learning about how plant stems transport water at a Family Science Night in Oakland. We were happy to help plan and deliver science experiences to the school community under the guidance of the lead science teacher, Kate Gallagher, and really enjoyed the time with students, their parents, and siblings shared during the event.

Learn more about BASIS scientist volunteers:
go to <http://www.crscience.org/volunteers/volunteerspotlights>

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BASIS Volunteer Spotlight On...



Ever wonder what our scientists are doing when they're not in classrooms?

Soomin learned about BASIS through the CalTEACH program and wants to become a health educator after she graduates with her Bachelor's degree.

Ashley taught science in elementary schools in Indonesia through a Fulbright Fellowship and is pursuing her PhD studying nanomaterial at UC Berkeley.

Gautham and Richard started the nonprofit, Future Scientist in addition to their PhD studies.

Learn about Soomin, Ashley, Gautham, Richard, and more BASIS volunteers at <http://www.crsscience.org/volunteers/volunteerspotlights>

Left: BASIS Campus Coordinator and Steering Committee member, Leah Witus, smiling for the camera in lab, where she is finishing up the research toward her PhD.

Celebrating Childhood Dreams: BASIS Volunteer Appreciation

On a breezy Sunday evening, nearly one quarter of this year's BASIS volunteers gathered at Clif Bar Headquarters in Emeryville to mingle, enjoy refreshments, meet fellow volunteers, and celebrate their childhood dreams. Along with the raffles, games, photo booth fun, and plentiful ice cream, we were honored to acknowledge several of our outstanding BASIS volunteers for their work this school year:

Miss and Mister Congeniality

Katie McKinstry and Arunan Skandarajah

Greatest Number of Visits this School Year:

Big Team: ESO, Lisa Fernandez & Sarpong Team

Small Team: Jessie Atterholt & Elizabeth Ferrer

Teaching Greatest Number of New Teachers:

Lisa Fernandez

Moved to Tears Greatest Number of Times:

Miriam Bowring and the Bergman Team

Most Stoically Invisible:

Seychelle Vos & the Germs and Your Body Team

Most likely to crash your meeting to tell you about BASIS:

Leah Witus & Kristen Seim

How to Think Like a Scientist Evangelists:

Kim Sogi, Brendan Beahm, Bertozzi Group

Most Likely to Perform an Encore of the Build a Bug Song:

Chris Bell and Scott Collins

Thank you to Clif Bar, Dreyer's Grand Ice Cream, and Berkeley Bowl West for making this event a success!

Right: BASIS volunteers enjoy refreshments while mingling to learn about each others' favorite science activities as kids and fill in Bingo raffle sheets with the responses



Want to see more photos, connect with peers, share classroom visit advice? Join the CRS BASIS Volunteers group on Facebook: <http://www.facebook.com/BASISvolunteers>



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Left: Second grade students in a Berkeley elementary school learning about gears and torque



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