



Community Resources for Science

practical support for great science teaching

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Chemists Heat Up CIC Program!



Peter Pauzauskie pours liquid nitrogen on the classroom carpet to the astonishment of a group of 3rd graders. "I just love that Liquid Nitrogen, it was wicked," wrote one of the students. "I can't even believe that Atoms are made of three parts!"

Question: *Into a mixture of local science professionals and enthusiasts, drop a dozen chemistry graduate students from UC Berkeley, stir carefully, and distill into local elementary classrooms. What result can you expect?*

Answer: *Hundreds of excited students saying things like "They made me feel SMART!"*

This year more than 90 CRS member classrooms have hosted a Community in the Classroom (CIC) volunteer. The CIC program is made up of working scientists from all over the community who develop

hands-on presentations to share with elementary students and teachers. CRS staff work with volunteers to help them develop presentations that are standards-based and age-appropriate—and that connect real-world science with classroom curriculum.

CIC has nearly doubled the number of participating volunteers this year thanks to a new partnership with UC Berkeley's Chemistry Department. The Department's Graduate Life Committee, with the encouragement of Professor Robert Bergman, has been promoting involvement in the program among graduate students in a wide range of specializations. Thanks to Professor Bergman's suggestion and the university's sponsorship, the "Chemistry in the Classroom" project has received a grant from the Camille and Henry Dreyfus Foundation for our work in 2005.

The people who've gotten involved from the Chemistry Department have provided an extraordinary boost of knowledge, talent, and enthusiasm to the program. Combined with our other stellar participants from the local community, they offer exciting science role models to our member teachers and their students.

Check our website at www.crscience.org

for information on how to get involved, or if you're a teacher, how to sign up for a volunteer in your classroom. *This summer we will start posting volunteer-developed activities on the website so you can reproduce these kid-tested experiences with your students!*

THANK YOU TO:

Rebecca Abergel, Rebecca Abram, Berna Atik-Watson, Ravi Chandrasekaran, Shelley Claridge, Peter Coppinger, Amanda Crochet, Abby Dawkins, Rick Diamond, Delphine Farmer, John Fassett, Katie Greene, Steve Guillaudeu, Jessica Harvey, Sylvia Hawley, Jacob Hooker, Sandra Larkin, Nancy Le, Eliza-Beth Lerch, Anna Merzlyak, Morgan Moschetti, Amanda Murphy, Jennifer Murphy, Nicki Norman, Kalil Oldham, Tina Oliver, Amish Patel, David Patterson, Peter Pauzauskie, Alan Poon, Jenn Prescher, Heather Randol, Rebecca Roberts, Dante Romanini, David Tilley, Amber Wise, Vivian Wong, and Ruiling Zhang for sharing your enthusiasm and expertise with elementary students all over Alameda County!

CIC Volunteer Alan Poon describes his experience:

"Are aliens radioactive?" This was a question that I had to field at a recent visit to a Grade 5 class. Getting innocent and speculative questions like this one is refreshing. As a physicist, I give lectures regularly to practicing scientists and graduate students, and often answer highly technical questions about my research. A different thought process is involved when fielding questions from elementary school students, as their imaginations seem to be boundless--and mine seems to be dwindling! I find that performing science outreach work for the CIC program at CRS is an effective way to recharge my research "battery."

Read the rest of Alan's story at www.crscience.org

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Science Socials Promote Connections

CRS started organizing Science Socials several years ago with the idea that teachers need time to have fun exploring new resources in the community and meeting each other “off campus” outside of organized workshops. Since we got started with these events, we’ve had opportunities to explore a wide range of different science enrichment sites, and we have expanded our socializing to include program providers – who are always eager to meet each other and teachers too.

This year, we’ve had Socials at several new locations. We kicked off the school year with our popular “Swap” themed social just before Hallowe’en at CHORI (Children’s Hospital Oakland Research Institute). While CHORI isn’t a field trip site for students, teachers were thrilled to find generous donations of lab supplies and great magazines and posters from the staff there and to meet several CIC volunteers from the CHORI staff.



In February, we invited teachers to the new I Recycle@School education center at the Davis Street Transfer Station. Always a popular field trip site, the new education center features a great staff and hands-on activities. Other environmental education program providers shared information about their offerings, and teachers were invited to take and test new curriculum kits developed by Stopwaste.org with RAFT (Resource Area for Teachers).

Our spring Social this May had a garden theme and was hosted by The Edible Schoolyard at Martin Luther King, Jr. Middle School in Berkeley. This wonderful garden and integrated kitchen/classroom offers all kinds of inspiration for classroom and outdoor curriculum. The Social featured lots of garden teaching ideas as well as information about summer professional development opportunities.

Members, be sure not to miss the next Social!

- ◆ Look for “save the date” notices in your CRS mailings
- ◆ Social invitations are mailed about 3 weeks in advance of each event
- ◆ Send us your home phone # or email – we try to call/email reminders a few days ahead
- ◆ Plan to bring a friend! Socials are a great way to encourage non-members to get involved.

Be CuRious: In the Garden

A garden begins with soil so it is the perfect location to start a study of **Earth Science**. In one garden you can often find examples of clay, loam, and sand, as well as different types of rocks. Have students bring in small jars of dirt from their own gardens to compare with the class, or get samples from different spots in your schoolyard. The garden is also a great location to observe weather. You can set up a simple weather station to measure rain, temperature, and wind, and discuss how weather affects the garden, people, and our environment. Why is rain important? Why do we have seasons?

Gardens are a great place to do science and to theme a lot of your science curriculum. Contact CRS if you would like to “dig a little deeper” into integrating gardens into your science curriculum. Request garden-related activities, field trips to local farms or gardens, website links, or garden grant information.

There is a lot of **Life Science** going on in the garden! You can look at “minibeasts” that live in the soil or compost. Have some worm races. Watch things decay and break down in different environments. Do leaf rubbings and look at what a wide variety of leaf types have in common and what

CRS Focus: Learning About Learning

This spring, with a grant from the Environmental Protection Agency, CRS developed and presented workshops for both teachers and environmental program providers on Understanding Student Environmental Learning. These workshops are designed to help educators embed a variety of assessment strategies in their lesson plans, design rubrics for looking at student work in science, and then analyze a wide variety of data gathered from student work in order to understand what students have learned.

This focus on connecting teaching goals with learning outcomes can help teachers gain insight into particular groups of students and re-teach concepts to make sure all students are successful, or refine lessons to be more effective with a different group of students. Similarly, environmental education program providers can use this approach to refine program delivery, achieve more consistency among educators, and use outcome data to inform program development and continued funding.

These workshops are part of a project focused on designing a long-term study of student environmental learning. Workshop participants are invited to participate in designing and implementing a longitudinal research project starting in 2005-06. Please contact us if you'd be interested in participating!

CRS has promoted these workshops to teachers and providers through CREEC (California Regional Environmental Education Community) and BASA (Bay Area Science Alliance). These organizations provide great sources of information about science and environmental education. Check out CREEC's calendar on their website: www.creec.org. BASA's calendar is on their website at: www.basa.info.

Thanks to our Donors 11/04—6/05

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Do Science Planning with CRS This Summer

Don't forget—CRS is a year-round organization! We would be happy to help you with your science planning over the summer.

- ◆ Would you like one-on-one support for planning science units for summer school or the coming school year?
- ◆ Are you changing grade levels or school assignments in the fall?
- ◆ Are you looking for professional development workshops or classes this summer?
- ◆ Do you want to get a jump on scheduling field trips for next year?

We can help you find activity ideas, fieldtrips, in-class programs, and materials such as books, kits, specimens, and equipment. All you have to do is let us know what assis-

Arthur Selleck Memorial Fund

The family of Arthur Selleck recently created a memorial fund at CRS in honor of his lifelong dedication to science education. Mr. Selleck was a man with lively, probing curiosity throughout his life. He taught chemistry and physics for 38 years in local schools and various math courses to students of all ages over a 50 year period through the U.C. Extension program. When asked by a colleague why he had stayed committed to education all those years, Mr. Selleck replied, "Because I really enjoy helping students learn about their world!" He believed in the power of hands-on learning experiences and used them in his own courses whenever possible. Mr. Selleck had his own student teaching experience at Berkeley High School in the 1960's. His daughter, Kathryn Selleck, is a Kindergarten teacher at Garfield Elementary in Oakland, a CRS member school.

Many people have made generous donations to CRS that will help us continue to support educators in their efforts to bring exciting hands-on science experiences to students in Alameda County. Donors to the Arthur Selleck Memorial Fund include: *Donna M. Borden, Margrith and Gary Byer, Bernice Carnes, Ryszard and Robin Chetkowski, Leona Derheim, Keith Lee Derian, Melissa Johnson, Nancy Johnson, William and Monica Johnson, Cathy Luchetti, Michael D. Roberts, Randy Snyder, and Dorothy A. Tregoe*

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www.crscience.org

Member News

This year CRS has increased our membership to include more than 300 teachers from schools all over Alameda County, as well as a few neighboring districts. We are delighted that Berkeley Unified School District has offered whole-school membership to all its elementary schools in 2005, and we have provided membership orientation on most Berkeley sites this year.

In addition, this year we have begun to expand the membership program to include more informal science educators, and to expand our member benefits with that group in mind. For example, just as teachers can request informational reports from our database about field trip and in-class programs appropriate for their grade level, program providers can request reports about other providers offering

programs on similar subjects or serving the same geographic area. Our regular mailings help educators stay in touch with special events, grants, and professional development offerings. Program providers are encouraged to attend Socials to meet colleagues as well as teachers and make new connections.

Annual CRS membership for individuals is \$35, with discounts for groups and whole schools or organizations.

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