

I have been using resources from CRS for many years now. Before training I received through CRS, I was very intimidated at the idea of teaching science. Now, I look forward to it and am willing to take risks with new lessons and allowing students to do hands-on activities. I've discovered that even when lessons do not go as planned, we always have a good time and learn something!

- 3rd grade Teacher, West Contra Costa

Community Resources for Science

Empowering educators and scientists to engage young learners in wonder, exploration and discovery

2024-25 Impact Report



Children benefit from intentional support. Science support from science focused leaders makes all the difference.

- Transitional Kindergarten Teacher, San Leandro

1611 San Pablo Ave., Suite 10 B, Berkeley, CA 94702 (510) 527-5212 EIN 94-3262587 crscience.org

Overview

CRS is an amazing resource for educators. As a general education teacher, there is a lot of content we are expected to cover. I value the resources that CRS offers and the flexibility all of the resources provide that allow me to supplement/enhance our existing science curriculum. I love that I can open a CRS newsletter and learn more about what is going on in the science education world and get inspired myself. Science education is so important and early access to STEM feels even more important today. **– 5th grade Teacher, Oakland**

CRS opens doors to wonder, exploration, and discovery for elementary and middle school students across the East Bay. This Impact Report provides a summary of the 2024-25 programs and services CRS provided, key program evaluation findings, and highlights of joyful learning experiences.

By empowering teachers and STEM role models to effectively engage young learners, CRS expands opportunities for children, particularly in historically marginalized communities, to experience authentic science learning that builds critical skills and prepares them for future success.

CRS Impact by the Numbers

Nurturing a dynamic network connecting 2,000 educators with 200+ partner organizations, impacting learning for 45,000 TK-8 students

Mobilizing and placing 1,000+ STEM professionals to lead lessons and serve as mentors, reaching 16,000+ students

Engaging 400+ educators in professional learning workshop & collaboration sessions

Throughout the year, our TK students have been inspired by hands-on learning experiences and stories of real scientists to discover their own inner scientist. Whether observing nature in our garden, exploring light and rainbows, connecting to nature and our local Bay or learning about seeds and the environment, each experience has sparked big questions and even bigger dreams. Students now talk excitedly about the ocean, outer space, robotics, and the natural world—and many are already imagining futures as astronauts, SCUBA divers, robotic engineers, and scientists who study bugs and plants. Their curiosity, creativity, and excitement for discovery are a clear sign that the future of science is in bright, eager hands.

--TK Teacher, Oakland

As a result of CRS programs & services, teachers indicated they...

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<td>91%

Increased time spent on science learning</td>
<td>  </td>
<td>The students begged me to do science. When they saw it on our schedule they would cheer. When we started observing plants in the morning, science became a daily routine and they loved it.
– 1st grade teacher, Oakland</td>
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<td>91%

Added new science experiences</td>
<td>We visited the Sulphur Creek Nature Center, where we met naturalists, interacted with invertebrates, and observed a variety of other animals!
-3rd grade Teacher, San Leandro</td>
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<td>94%

Observed their students connecting STEM lessons to the “real world”</td>
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<td>We realized science is everywhere! On the playground, students noticed the science about slides and ramps. In the field, they noticed birds and other living things. We started to learn about …engineering for stronger buildings. Seeing students continue to make these connections has been the best part of starting any new unit.
- TK Teacher, Oakland</td>
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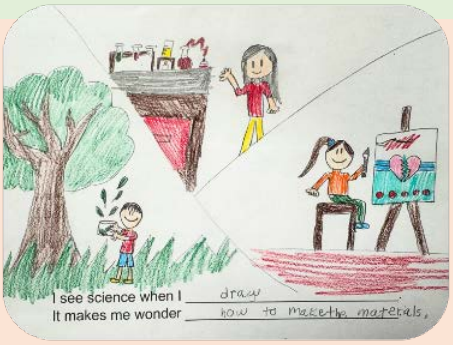
<td>93%

Reported their students strengthened their STEM identities</td>
<td>This morning a 4th grader told me that she didn't used to like science but after the UC Berkeley scientists came today and shared the circuits lesson, she now wants to go to Cal and study STEM engineering. Thank you for inspiring a future scientist!
-Science Resource Teacher</td>
<td> 
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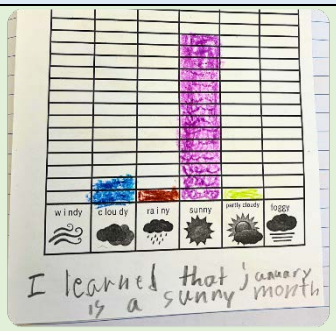
<td>82%

Intentionally used science to build student ELA & math skills</td>
<td> 
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<td>While students are in my science class, they don't realize they are also practicing ELA and math skills that all scientists need. We often have discussions so students can practice communicating and sharing information. I've seen great improvement in their vocabulary and language tests.
-Science Resource Teacher</td>
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Empowering Teachers: Real-World Connections, Support & Training

CRS has been a great place to find resources for field trips, grants, and easy to incorporate science and engineering experiments. We have had scientists come into the classroom to teach the students about science and careers in science. I have attended many training sessions conducted by CRS. Each time I was given ideas on how to incorporate more math, language arts, and engineering into my science lessons. CRS has helped me to make science engaging, fun and educational. Thank you for everything that you have provided me over the many years. **– Kindergarten Teacher, West Contra Costa**

More than 400 educators demonstrated their dedication to improving their science teaching by participating in CRS professional learning workshops, weeklong Institutes, and year-long collaborative cohorts. Together they learned new science and engineering content, developed effective strategies for leading science learning, shared best practices, and worked with CRS-trained teacher peer-coaches to share strategies for success. The following pages illustrate just some of the examples of the transformative professional learning CRS facilitated this year, impacting learning for more than 45,000 East Bay students. Throughout these snapshots, we share teachers' own words about the impact of this work, examples of student work & images of students actively learning – all provided by teachers to document their implementation of effective science teaching through our **Champions of Discovery** program that recognizes teacher and students for excellence in science.

Professional development collaborations focused on:

- Integration of Math and Science in Joyful Elementary Science Explorations
- Equity in STEM Teaching: Practices, Tools and Lenses for Designing Inclusive Instruction
- Taking Science Outdoors
- Summer Climate Change & Environmental Justice Institutes on Air Quality and Extreme Precipitation
- Strategies and Resources for Building Climate Literacy in Classrooms and Districts
- OTACA partnership: Year-long Climate Literacy & Action K-12 Teacher Collaboration
- Becoming an effective Peer Coach: Leadership in Science Teaching
- Cutting Edge Research & STEM Careers: Scientists & Engineers Share their Research and Pathways

Champions of Discovery! Throughout the year, teachers observed students, discovered the power of interactive science, and documented improved learning outcomes

More than **3,500 children – and 43 teachers – earned Champions of Discovery** recognition receiving thousands of science kits, books, and other prizes including field trips, festivals and Scientist Ambassadors.

Real hands-on science puts students in the driver's seat!!! *-- OUSD 3rd grade teacher*

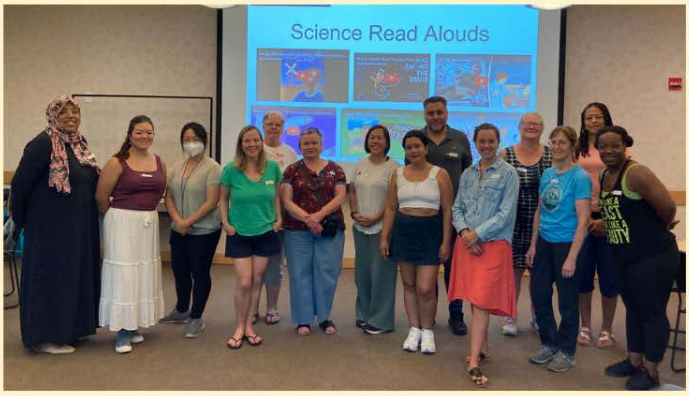
Peer Coaches Support Fellow Educators in Integrating Science with Math & ELA

What I got out the training & being a peer coach:

- *The peer coach training gave me experiences and other views from other kindergarten teachers. Working with like minded teachers gave me just enough confidence to teach other teachers.*
- *I felt a sense of belonging with the other coaches*
- *Knowing that I am not alone on this science adventure! Other teachers at my site and district are going through similar things. Some are trying to find time to fit science in and it is rewarding to help them complete Champion of Discovery challenges. It is getting easier each year. I've enjoyed integrating as much science as I can in my students' lives and in mine:)*

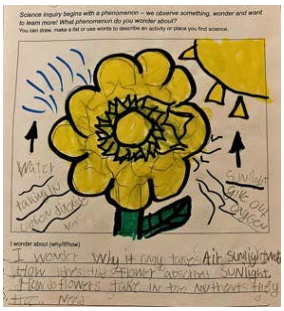
I was actually pretty nervous about leading the Joyful Math and Science Workshop because I'm so used to teaching kids and not adults but once I got started I really felt like we were forming a community...and were having great conversations about math and science.

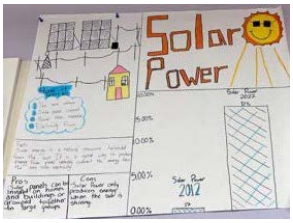
It was really refreshing and empowering to connect across 3 schools and 2-3 grade levels and share practices. It was great to put theory into practice!

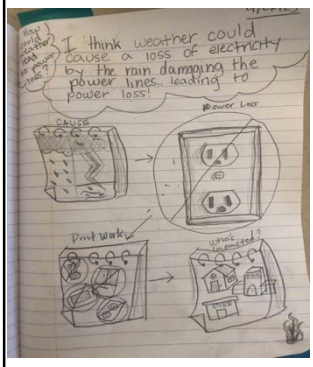


In my classroom, I strive to create a learning environment that reflects the diverse world around us. To foster my students' connection to science in their daily lives, I incorporate resources, like diverse books and photos, that highlight different cultures and experiences. I bring in real-world science examples, so students can see science all around them. I also encourage curiosity by providing hands-on experiments, and having open conversations about how science is part of everything we do. By making science relatable and diverse, I help my students see how it touches their lives and the world they live in, sparking their natural curiosity. **– Kindergarten Teacher, West Contra Costa**

Environmental and Climate Learning to Build Literacy, Resilience & Take Action





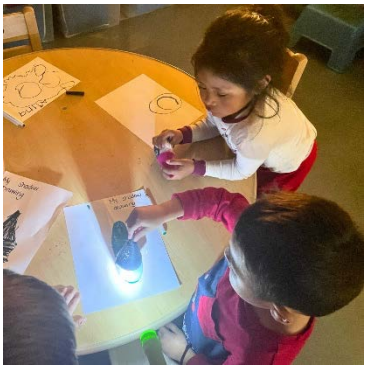


- **Hundreds of TK-12 teachers participated in climate literacy & environmental justice focused professional development**. Teachers from Hayward, San Leandro, Oakland, Emeryville, Berkeley, Richmond and other Easy Bay communities explored local data related to clean air, extreme precipitation & drought, energy resilience. OTACA K-12 year long collaboration supported student-led action projects in schools, at home, and in the community.
- **Professional development sessions in outdoor spaces** provided teachers with opportunities to discover and plan outdoor learning experiences for their students.
- CRS **created new curriculum for 4th grade focused on the connection between climate change and increasing frequency of electrical power outages, for statewide K-12 initiative.**
- CRS co-hosted the 2nd annual **Bay Area Climate Literacy Exchange, bringing together more than 180 K-12 educators, district leaders, and partner organizations** to share best practices in building climate literacy and environmental justice teaching and learning.
- CRS supported **school climate fairs, environmental & energy festivals to engage families.**

Teacher Stories: Joyful, Inclusive Science Learning in Action

Our intentional, interconnected, multipronged approach is effective in building teacher capacity. Children immerse themselves in guided sensemaking driven by their curiosity and nurtured by well-prepared scientists and educators.

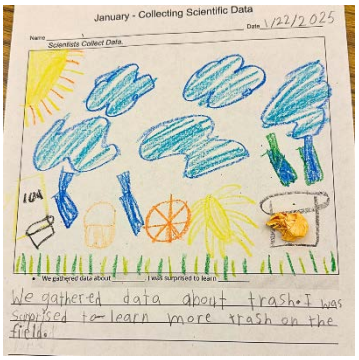
One TK teacher followed her students' lead when they marveled at rainbows outside and began an investigation on light and color with them, and later organized field trips to local parks where scientists taught them about the diverse wildlife all around them. She shared about the experience:



"Through hands-on play and observation, students began to understand that light is all around us and can create beautiful, colorful effects in our world."

"Many of my students have returned to these parks with their families! Meeting these scientists showed students that science is all around them and that they, too, can be scientists!"

A 2nd grade teacher encouraged her students to explore outdoors throughout the year, nurturing plant growth and harvesting vegetables in the school garden, observing plants and animals at local parks with environmental educators, and collecting data about quantity and composition of litter on their schoolyard. Together they used the data to propose solutions for their school community to reduce the impact of litter.



"These outdoor experiences helped our young scientists build a strong foundation in environmental science through hands-on, real-world learning."

"My students LOVED this challenge. The field had far more trash than any other area. Students had so many great ideas as to why that might be the case. 'The wind blows all the trash to the field.' 'It is harder to see the trash on the field.' It was such a great way to collect, analyze and reflect on data for a problem they all have a lot of background knowledge and experience with."

Putting STEM Equity & Teaching for Black Lives Practices into Teacher-led Action

CRS facilitated a teacher-led study group which brought together educators from Oakland, Berkeley, and West Contra Costa to critically engage with anti-Blackness in education and reimagine classroom and school spaces as safe, inclusive environments. These professional learning conversations were anchored by the "Teaching for Black Lives" teacher guide by Rethinking Schools.

I was so grateful that Community Resources for Science believed in my dream of opening doors to STEAM for students from under-represented groups and under-resourced communities who often get left behind. Because of their help, I was able to reach out to other teachers who wanted to make their classrooms more student-centered, skills-based, and inclusive. This study group made this possible. The [study group] is a testament to the fact that we have the lives of our students in our hands and it is our duty to enrich their experiences & allow them to feel welcomed, valued & seen.

Engaging Scientists: Fostering Belonging for Young Learners

Nearly 1,300 well prepared scientists and engineers directly engaged **16,000+ young learners** leading elementary lessons in hundreds of classrooms, mentoring middle schoolers, and sharing interactive demos with students and families at festivals and special events.

Thank you so much for conducting the lab this morning! The students LOVED it. They were very curious about what being a UC Berkeley scientist is all about + the lab was a perfect end to the Motion & Matter unit we just completed. –Elementary specialist

Teachers value the diverse range of experiences that scientists bring, sharing their expertise in a range of STEM fields, talking with kids about things they have in common such as hobbies and pets. As they laugh and learn together, STEM role models encourage each child to imagine their own connections and belonging in STEM.

The scientists were so enthusiastic about the lessons. The students were engaged and enjoyed themselves. I really appreciated the discussion about what scientists do, and allowing the students to ask question of the 4 amazing women scientists what they like about being scientists!

- Kindergarten Teacher, Berkeley

STEM professionals who volunteer their time for outreach in local schools say they particularly value the opportunity to bring connections to students who may share the same cultural background or share the same elementary school interests and aspirations as they had as children. For many scientists from underrepresented backgrounds, visiting classrooms to lead science explorations allows them bring inspiration as a role model to the next generation.

Knowing that a lot of the students here are Spanish speakers, they look like me, and I would like to think that if I saw someone when I was little that looked like me in the field that I could be like 'That could be me too!'

- Scientist, Grifols

STEM Mentors Support Middle School Investigations & Career Explorations

More than 150 STEM mentors, mainly from UC Berkeley and Lawrence Berkeley Lab, provided thousands of hours of individual mentoring and career pathway information for nearly 1,000 middle school students in Berkeley, Richmond and Oakland. **Teachers indicated that the unprecedented level of direct, individual student support is for many students a transformative experience with long-lasting impacts on student aspirations, interests and academic success.** Students enthusiastically embrace the opportunity to design and carry out investigations based on their own interests, with caring mentors to guide and encourage their independence as they engage in authentic practices of science and engineering.

Highlights from Berkeley, Richmond and Oakland illustrate the deep commitment of STEM mentors, middle school teachers, and the students themselves to bring powerful learning experiences to life.

Berkeley: Districtwide "Be a Scientist" STEM mentors support individual success for nearly 700 students across every 7th grade science class; Reverse Science Fair for every 8th grade class

During each six-week Be a Scientist (BAS) session, UC Berkeley STEM researchers (155 in all) receive extensive training and are paired with small groups (3-5) of BUSD 7th grade students in their regular 7th grade science class, in order to provide individual, weekly, in-class mentoring as each student designs and conducts their own science or engineering investigation.

This year brought a notable milestone as the BUSD "Be A Scientist" program welcomed a new mentor named Leo, who was himself once a 7th grade mentee years ago. Now an upper division Physics major at Cal, he returned to his former Berkeley 7th grade science classroom eager to share with today's students the same enthusiastic support and encouragement that he fondly recalls as making a real difference for him.

Students explored a wide range of topics, from compressed air experiments, catapults and bottle rockets, chemical reactions with lots of fizz and foam, rubber eggs, mold growth, magnets, seed germination and plant growth, solar cells and solar vehicles, physiological phenomenon, optical illusions, and more. Donning lab coats, running experiments with authentic science equipment, and collecting data actively engaged students in thinking critically and communicating their ideas to one another and to their mentors.

Flipping the usual science fair format, dozens of researchers, engineers and STEM role models from UC, LBNL and local industry presented about their research and career pathways, reaching all BUSD 8th graders and a growing number in Oakland and Richmond.

Expanding STEM Career Explorations & Mentoring to Richmond and Oakland

Nearly 600 6th 8th grade students across 20 Oakland and Richmond classes participated in STEM mentoring and career explorations.

My mentor was so cool! It was interesting to learn about her research. She provided help whenever I got stuck, but let us have the independence to problem-solve on our own. – 7th grade student

2024-25 BASIS Lessons Featured Water Safety, Health, Space & More

Adapting to Survive: Predators & Prey
Alka-Seltzer Rockets
All About Vaccines
Artificial Photosynthesis
Bacteria: Under the Scope
BioEngineering:
Design A Pill Coating
Carbon Sequestration
Catapults
CheMystery Liquids
Chromatography &
Medicine Development
Clean Oceans For Powerful Communities
Climate Change: School Gardens
Clouds, Clouds Everywhere
CSI: Chromatography
DNA Discovery
Electric Vehicles and Air Quality
Electricity, Magnetism & the Wall Socket
Engineer Something for Outer Space!
What Problem Can You Solve?
Eye See It: Understanding How Eyes See
Exploring States of Matter
Eyes are SPEC-tacular
Exploring Magnets
Exploring States of Matter
Gene Machine: Build Your Own Traits. Mix, Match, and Mutate!
Germs and Your Body
Great Mixing Mystery:
Why Some Liquids Don't Get Along
Green Polymers
It's Just A Phase!
Leaf Fossils & Climate Change
Let's See Germs!
Light Up
Lights! Colors! Vision!
Looking at the Stars

Materials and Structures
Microorganisms: Good or Evil?
Nutrition Nerds
Oceans Are For Everyone!
One Health: Can a Cow Make You Sick?
One Health: Dog Behavior
One Health: How to Prevent Zoonotic Disease
One Health: inFLUenza
One Health: Outbreak: Germ, Your Pet & You!
Optimization & Minimization
Paper Clip Motor
Parts of the Brain
Pasta Polymers
Pixels: Vision in the Digital Age
Prehistoric Puzzle:
The formation of fossils
Robots that Run
Science Ambassadors
Simple Circuits
STEM Career Explorations
Storytime with a Scientist:
Rosie Revere, Engineer
Storytime with a Scientist: Ada Twist, Scientist
Space: Planets, Moons & Stars
Survival of the Fittest!
Vet for a Day
Water Works
What Is Outer Space?
What is Renewable Energy?
What Makes Water Safe to Use?
Exploring Water Filtration
What's the Matter with Gas?
Wow! Julia Robinson Math Fest

The in-class presentations leave a HUGE impact on students. Students from my previous classes come back often and talk with me about those experiences. **–4th grade teacher**

I can see that they understand things that they do and have at home are science—that it doesn't have to just be an experiment at school, like some people might think. And also [to] be able to go on outdoor field trips helps them understand not only that science is all around us, but also how they can be a steward to help with conservation efforts. **– 5th grade Teacher, Oakland**