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Amazing Math & Science Explorations (AMASE), Executive Summary

Mission

Our mission is to empower teachers and STEM professionals serving schools in historically marginalized communities to activate TK-8 students' curiosity about the world, foster critical thinking, and inspire children to imagine future STEM career pathways. We nurture a community of educators, scientists, families and partners working together to build school cultures that equip all children to explore the world around them and build the skills needed to become innovators, problem solvers, environmental stewards, life-long learners and leaders. Together, we are transforming science teaching and learning toward greater equity, opportunity, and success for all students. In short, we help teachers make sure more kids get to "do" real science, meet real scientists, and experience the joy and power of wonder, exploration and discovery.

Project

Using a proven model, The AMASE (Amazing Math and Science Explorations) project will engage 100 educators from Oakland, Richmond and other low-income East Bay school districts, impacting nearly 3,000 children. Teachers will collaborate with scientists and engineers to develop and implement lessons integrating math and science in joyful learning experiences that foster student success and cultivate a sense of belonging in STEM. The lesson plans will be developed through a series of TK-5 grade specific workshops, starting with 20, growing to 40, and then in 2023, involving 100 educators, along with 24 scientists. The immediate application of these lesson plans will directly impact 1,500 students in Fall 2022, and 3,000 students in 2023. Teachers welcome scientist role models into their classrooms so that students connect their own interests with fascinating, well-paying future careers. The unique scientist-teacher interactions that CRS provides through AMASE will deepen teachers' confidence and effectiveness, benefitting their current and future students for years to come.

Community Transformation

As a result of the AMASE project, young students will have more opportunities to strengthen emerging math and language arts skills through science explorations that are of genuine interest. The program will help close large and persistent opportunity and achievement gaps, allowing more children to arrive in middle schools well-prepared for rigorous math and science courses that can lead to bright futures. We love hearing from students and teachers about the impact of these visits:

Student note to volunteer: *Thank you for visiting our class and teaching us about engineering. I enjoyed making my robot run. Now when I grow up and become an engineer, I'll know just what to do.*

Teacher note: ***CRS has been instrumental in turning me into a science teacher. Science was never my strongest subject in school and, as a teacher, I did not feel particularly competent to teach science to my students. However, the training and support I received from CRS has made me feel confident about teaching science to my students. I realized that I did not have to know everything about a topic or be able to answer all students' questions. Science is about curiosity and exploration; it is about approaching problems with a certain mindset; it is about careful observation and critical thinking. Now, my students do science every week and we learn together.***