

SCI FY: AN INNOVATIVE STEP IN INCREASING DIVERSITY

Many summer and after school programs typically focus on providing middle school students with tutoring help, and time to play. It is often assumed that summer is not the time to focus on specific career-exploration, or providing students with the skills needed to be successful in college and the competitive job market in the Bay Area. Exposing younger students to careers in engineering, research, and technology, is assumed to be more effective when students are in high school.

The lack of diversity in science and technology careers is a problem that has a root that begins much earlier than high school. The lack of Algebra 1 at an early age has been identified as a barrier to many youth participating in science and technology activities and has led to a lack of low-income youth pursuing science and technology as a career choice. Youth who do not take Algebra by the eighth grade will not be able to complete Calculus by the 12th grade; which is an expectation of most universities. Science and technology career exploration at an early age is also essential to reverse the "nerd" stereotype that girls and youth of color tend to form about scientists during the critical ages of 10-13.

Science for Youth (SCI FY) is a creative collaboration of community leaders and corporations brought together to address and design solutions to the lack of diversity within science careers. As an Alameda County Supervisor, I launched SCI FY in 2003. The mission of increasing participation and inclusion of traditionally under-represented students in science and technology careers is advanced by exposing 6th and 7th graders to everyday science encountered in our own communities. The SCI FY collaborative achieves this through three program components: the 2004 SCI FY Camp, the 8-month Youth Science Bridge, and School District outreach. The SCI FY camp will expose students to careers in science and technology, and begin to address math skills needed to prepare students for entry into Algebra 1. The Youth Science Bridge program consists of SCI FY staff working with youth during the school year and coordinating field trips and events to maintain exposure to science. Finally, SCI FY will outreach to local school districts to encourage the integration of culturally competent science curriculum into middle schools.

We will launch SCI FY camp in August 2004 on the U.C. Berkeley campus, with two one-week sessions that will include 50 youth from West and North Oakland and South and West Berkeley (ages 11-12). Students will participate in science curriculum that is designed with culturally diverse goals and perspectives. The camp will also have a strong focus on basic math skills to prepare students for entry into Algebra 1.

During the 5 days of SCI FY camp, students will have the chance to meet and talk to engineers from various areas of science and technology. Led by an engineer, and mentored by UC Berkeley and high school students, the campers will have the chance to explore everyday engineering through hands-on activities. The activities are designed to allow the students to question and play with objects they see around them and create solutions to everyday engineering problems. The curriculum and activities will focus on engineering concepts that affect students, from how to keep an egg safe in a moving vehicle (Newton's Law of Motion), to exploring how bridges in the Bay Area were constructed (shapes, forces, and loads). Students will get the chance to explore engineering tools that they see around them everyday, but do not realize the complexity of the device, the scientific principals that form the basis of its operation, or the work that went into producing the technology for public use. Encouraging students to question everyday tools begins to prepare students to question concepts studied in school, and build essential skills needed for the science and technology fields.

In addition to "engineering", the camp has a strong focus on learning through programming. Students will have the opportunity to build their own websites, and program Lego robots to do specific functions. All activities are designed to build math skills that middle school students tend to struggle with, such as percentages, ratios, and logical reasoning.

Engineering, technology and research are major components of the Bay Area job market. SCI FY is an essential first step toward preparing girls and youth of color for jobs in these fields. This unique program recognizes the need for preparation at an early age. SCI FY will encourage students to dare to dream about careers they might not have encountered, and encourage them to take the classes needed to attain that career. Today's youth are tomorrow's workforce; it is only through programs like SCI FY that our youth will continue the Bay Area's trend toward scientific and technological excellence.

SCI FY is still accepting volunteers and sponsorships for this year's SCI FY Camp -- please contact Tahera Kapasi at 510-208-9599 if interested.