



Ocean Science Explorers Initiative

Initiative Narrative

From June through July 2010, Ocean Discovery Institute **provided classroom-based, experiential science education to 1,145 low-income students and 29 teachers**, including hands-on activities and an environmental service project that students implemented at the completion of the program.

The initiative was expanded to reach two new schools this year. This summer, the program was **completed at all 5th and 6th Grade classes at five elementary and three middle schools** in low socio-economic status communities. 100% of the work is now completed.

<p>In-Class Activities</p> 	<p>The In-Class Activities were completed for all 5th and 6th Grade students, who participated in four to five hands-on, interactive, standards-based science lessons in their classrooms led by Ocean Discovery Institute staff. Interactive program content introduced students to science in genuine ways, helping them make connections between science and their own lives and communities.</p> <ul style="list-style-type: none"> ● 5th Grade: Students became "<i>City-to-Sea Scientists</i>" gaining an understanding of how water connects ecosystems, how human impacts can affect interconnected ecosystems and about the diversity of careers in science. ● 6th Grade: Students became "<i>Time Travelers</i>" using geologic evidence to discover what the Earth was like in the past and the forces that are shaping its future.
<p>Environmental Service</p> 	<p>All students participated in a locally-based environmental service project related to the science curriculum and led by Ocean Discovery Institute staff. By participating in locally-based environmental projects, students gained the understanding that they can make a difference, encouraged others to participate in stewardship and increased everyone's ability to increase quality of life within highly urbanized communities. Students learned about environmental issues, the impacts that their actions upstream have on San Diego Bay, and how they can take action to improve water quality.</p> <ul style="list-style-type: none"> ● 5th Grade: Students conducted school-wide assessments of water conservation problems and practices and proposed potential solutions to encountered problems. ● 6th Grade: Students created slogans and illustrations to educate classmates about "<i>Reduce, Reuse, Recycle</i>" and to encourage school-wide conservation practices. Winning designs in each school were turned into buttons for all students at their grade level.

Problems Encountered and their Resolutions

The original plan for the 5th grade environmental service project was modified slightly due to technology issues. For this project, students used cameras to document school-wide water conservation practices and problems, photographing anything they observed that might lead to unclean water or that demonstrated a lack of water conservation (such as a dripping faucet.) Students were then to come back to the classroom and display their findings. However, each school and classroom differed in the level of technology available, which was needed to download and display photographs. Therefore, the photographic evidence presentation was replaced with student group presentations about their findings and potential solutions.

Cumulative dollars spent to date: \$30,000

Initiative Outcomes

From September 2009 through July 2010, Ocean Discovery Institute **provided classroom-based, experiential science education to 2,200 low-income students and 69 teachers** with the following outcomes.

Goal: Increase diversity among those who support and act for the benefit of the environment
Outcomes:

- 2,200 students participated in an environmental action related to their unit of study.
- 547 student-created conservation campaign buttons were created and distributed to the 6th grade participants to raise awareness around their conservation efforts.
- 24 bags of trash were removed from students' neighborhood canyons and streets.
- 24 storm drains located adjacent to students' schools were painted with "No Dumping...! Live Downstream" signage.
- 543 5th grade students assessed their schools' water conservation practices and proposed solutions to address issues.

Goal: Increase participation in the sciences among teachers and students from underserved communities

Outcomes:

- 2,200 students participated in the program.
- 18,726 total educational hours were provided.
- 69 teachers participated in professional development.
- 69 classrooms received books and science materials.
- New partnerships were established to provide the program at Rosa Parks and Central Elementary Schools.

Goal: Increase and/or maintain interest in the sciences among students from underserved communities

Outcomes:

- Pre- and post-content surveys were administered to program participants to measure interest in the sciences. Results will be provided with a Final Evaluation Report in January 2011.

Goal: Increase performance in science by students from underserved communities

Outcomes:

- Pre- and post-content assessments were administered to program participants to measure science performance. Results will be provided with a Final Evaluation Report in January 2011.

Goal: Increase interest and participation in the natural world among students from urban communities

Outcomes:

- 2,200 students participated in a field-based experience to a natural setting.
- Pre – and post-interviews and surveys were administered to program participants to measure interest in natural habitats. Results will be provided with a Final Evaluation Report in January 2011.