

## COMmunities Educating Tomorrow\'s Scientists (COMETS)

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Project:

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Project Website: <http://wvscience.org/comets/>

Project Categories: Programs

Primary Target:

How to Reach Primary Target: Through sponsorship of the National Science Foundation, elementary students participate in science lessons in a variety of after-school environments including 21st Century Community Learning Centers, Boys & Girls Clubs and faith-based programs.

How to Reach Secondary Target: Pre-service educators are trained by professional science educators to be the primary deliverers of the after-school science lessons to elementary youth.

General Demographics: low-income, minority, urban youth of both genders and both traditional and non-traditional pre-service educators.

Project Dates: 6/1/2007 - 5/15/2009

Funders

Funders: National Science Foundation  
4201 Wilson Blvd  
Arlington, VA 22230  
<http://www.nsf.gov>

Evaluation and Field Testing

Evaluators: Edvantia  
1031 Quarrier Street  
Charleston, WV 25301  
<http://www.edvantia.org>

Evaluation Strategy: Evaluation will be both formative and summative. Formative evaluation will assess program goals as compared to intended goals in a timely fashion so that program improvements can be made. Summative evaluation will be a mixed method approach including analysis of survey data, pre-service lesson reflections, and lesson observations.

Project Descriptions

Summary: The three-year "COMmunities Educating Tomorrow\'s Scientists (COMETS)" project is implementing an earth and space science program with the focus of learning science as inquiry in several unique after-school environments. COMETS targets 200 low-income, underrepresented and minority students at five community centers in

Charleston, WV, for inclusion in a NASA-centered informal science education program. COMETS is also working with local universities to build better elementary teachers who can confidently teach science. Pre-service teachers are mentored by formal teachers both prior to the science lesson in preparation and during the after-school science lesson at the centers. Through innovative hands-on investigations coordinated with students' formal curricula this program seeks to excite, inspire, promote academic achievement, and expand regular school time learning experiences for students in grades 3-5.

Impact:

COMETS will benefit several populations: elementary grade students; middle grade students; and pre-service, informal, and formal educators; and society at large. COMETS will provide integrated earth and space science instruction to an under-served and under-represented informal education population. COMETS estimates that a total of 300 students (90 3rd grade, 90 4th grade, 90 5th grade, and 30 6th grade) and 50 educators (6 OST staff, 4 elementary, 2 middle school, 2 high school, and 36 pre-service) will participate in this innovative science program.

Lessons:

COMETS is based upon the strengths of both the informal and pre-service educator. A different type of instructional strategy must be engaged in the informal classroom. Often, younger adults are involved in the community learning centers, serving as role models for the children and bringing relevant cultural information that formal educators may not possess. Fostering staff enthusiasm for the COMETS program will provide an important catalyst to motivate and inspire children. COMETS, with the help of this "hip" younger staff, will strive to create an environment where science exploration and play are required. COMETS staff will model "being a scientist" as they learn to replace "I don't know" answers to student's question with "That's a good question, let's find out", "Where do you think we should start to find out?", and "Let's put it in your question book." A "question book" or a "question parking lot" will provide the opportunity for the student's questions to be addressed without being necessarily answered and for the program leader to move forward. COMETS is also working to verify the impact of teaching science in a very student-centered instructional space changes and improves the pre-service educators thinking about teaching science.