

INFORMATION DISSEMINATION

- Food and Agricultural Education Information System (FAEIS)

A major function of HEP is to develop and disseminate essential national baseline data on food and agricultural sciences higher education. These are used for analyzing attributes and trends of the higher education system and for assessing the availability of and demand for scientific and professional expertise by the food agricultural, and natural resource systems. This function is carried out by FAEIS, which is sponsored by HEP and managed by faculty and staff at Texas A&M University. The phone number is (409) 845-5068, and FAEIS can be accessed on the internet via <http://faeis.tamu.edu>

- Employment Opportunities

Every five years, USDA-HEP conducts a national assessment of graduation rates and employment trends. The most recent study resulted in the very popular publication, *Employment Opportunities for College Graduates in the food and Agricultural Sciences, 1995-2000*. It is available to the public in single copies or bulk and is often used by educational institutions to assist in designing academic programs and to help students make career decisions. The report can be accessed on the internet via the CSREES homepage (<http://www.reeusda.gov>), under Higher Education Programs.

2/20/97

FOR FURTHER INFORMATION

For further information about these activities, please contact the Higher Education Programs office.

Higher Education Programs Staff

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National Program Leaders

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Ms. Jodi Powell, 1890 Scholar

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Higher Education Programs

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CSREES Homepage (<http://www.reeusda.gov>)
under Higher Education Programs

HIGHER EDUCATION PROGRAMS



Science and Education Resources Development

Cooperative State Research,
Education, and Extension Service

U.S. Department of Agriculture

HIGHER EDUCATION PROGRAMS

Mission:

Higher Education Programs (HEP) promotes excellence in food and agricultural sciences higher education. HEP administers several high-priority programs to enhance the quality of education and to develop outstanding scientific and professional expertise at colleges and universities across the Nation. To establish national priorities and to develop Federal/State and public/private action agendas for achieving these priorities, HEP works in partnership with academia, industry, other Federal Agencies and professional associations. HEP coordinates regional and national conferences, and manages an array of programs and projects designed to achieve these objectives.

Expertise Development

- Food and Agricultural Sciences National Needs Graduate Fellowships Grants Program

This national competitive grants program enables colleges and universities to recruit outstanding predoctoral students to graduate studies in targeted expertise-shortage areas: plant and animal biotechnology; food, forest, biological, or agricultural engineering; food, forest products, and agribusiness management and marketing; water science; food science or human nutrition.

- Multicultural Scholars Program

This program increases the racial and ethnic diversity of the food and agricultural scientific and professional work force, and advances the educational achievements of minority Americans. Institutions compete for grants that provide scholarships to outstanding students from traditionally

underrepresented racial and ethnic groups to pursue baccalaureate degrees in the fields of agriculture, natural resources, forestry, veterinary medicine, home economics, or closely allied disciplines.

Institutional Enhancement

- Higher Education Challenge Grants Program

This program promotes excellence in undergraduate teaching programs in the food and agricultural sciences. Projects selected competitively and supported under this program address state, regional, national, or international educational needs, involve creative or novel approaches toward addressing such needs, encourage and facilitate better working relationships in the university science and education community, and result in benefits which transcend project duration and USDA support.

- 1890 Institution Teaching and Research Capacity Building Grants Program

This competitive program builds the institutional capacities of the 16 historically Black 1890 Land-Grant Institutions and Tuskegee University through cooperative linkages with Federal and non-Federal entities. The program serves to attract more minority students into the food and agricultural sciences; expand the linkages among the 1890 Institutions and with other colleges and universities; and strengthen the teaching and research capacity of the 17 institutions to more firmly establish them as full partners in the food and agricultural science and education system.

- Hispanic-Serving Institutions Education Grants Program

This is a new competitive grants program intended to promote and strengthen the ability of Hispanic-Serving Institutions to carry out higher education teaching programs in the food and agricultural sciences. (Hispanic-Serving Institutions' undergraduate enrollments are at least 25 percent Hispanic.) Funded projects address one or more targeted need areas: curricula design and materials development, faculty

preparation and enhancement for teaching, instruction delivery systems, scientific instrumentation for teaching, student experiential learning, and, student recruitment and retention.

- Tribal Colleges Endowment Fund

This program distributes interest earned by an endowment established for the 1994 Land-Grant Institutions (29 Tribally controlled colleges) as authorized in the Equity in Education Land-Grant Status Act of 1994. The Endowment Fund enhances education in agricultural sciences and related areas for Native Americans by building educational capacity at these institutions in the areas of curricula design and materials development, faculty development and preparation for teaching, instruction delivery systems, experiential learning, equipment and instrumentation for teaching, and student recruitment and retention.

- Tribal Colleges Education Equity Grants Program

This formula grants program is designed to strengthen higher education instruction in the food and agricultural sciences at 1994 Land-Grant Institutions. Projects focus on undergraduate and/or graduate studies in the food and agricultural sciences in the same areas as the Endowment Fund.

- National Awards Program for Excellence in College and University Teaching in the Food and Agricultural Sciences

Each year this program honors two nationally outstanding and eight regionally outstanding teachers. Nominations are solicited from agriculture, forestry and natural resources, family and consumer sciences, and veterinary medicine. Awards honoring the recipients are conveyed to the institutions of their choice and are used to strengthen instructional programs in the food and agricultural sciences.



U.S. EPA
Environmental Education Division (1707)
March 1997

ENVIRONMENTAL EDUCATION AND TRAINING PROGRAM

Under Section 5 of the National Environmental Education Act of 1990, EPA awards a three-year cooperative agreement to a consortia of universities and nonprofit organizations to develop a nationwide training program for education professionals (e.g., K-12 teachers, nonformal educators, and state and local education and natural resource officials). The ultimate goal of this program is to increase the public's ability to make responsible environmental decisions by training teachers and other education professionals to develop and deliver quality environmental education (EE) programs.

The first three-year phase of the training program was initiated in 1992 with the award of approximately \$5.4 million to the National Consortium for Environmental Education and Training (NCEET) led by the University of Michigan. Under this phase, NCEET: 1) conducted research to assess EE training needs, 2) developed the "EE-Toolbox" of resource materials for teacher trainers on topics such as how to integrate EE into school curriculum, reach urban audiences, and evaluate materials, 3) provided training for teachers and teacher trainers, and 4) increased access to EE information and resource materials through "EE-Link," an electronic database which links to other databases through the Internet.

EPA initiated the second three-year phase of the program with the award of approximately \$5.3 million in 1995 to a consortia of institutions led by the North American Association for Environmental Education

(NAAEE). This program builds upon and includes the work initiated by the University of Michigan under NCEET, and is titled the Environmental Education and Training Partnership (EETAP). The partnership is presently comprised of nearly a dozen non-profit organizations and universities including NAAEE; Project Learning Tree; Project Water Education for Teachers (WET); Project WILD; the University of Michigan; the University of Wisconsin-Stevens Point; Northern Illinois University; Ohio State University's Eisenhower and ERIC/CSMEE Clearinghouses; and the U.S. Department of Education-funded WestEd Laboratory for Educational Research and Development. The second three-year phase of the program focuses on:

- delivering training to education professionals through existing programs;
- improving access to quality EE materials by expanding linkages among existing EE databases, and developing and disseminating guidelines for EE materials and EE learner outcomes for grades 4, 8, and 12; and
- sustaining training efforts over the long term by strengthening partnerships and networks and building state-wide capacity.

As part of the above activities, special emphasis is being placed on:

- tying EE to state and local education reform goals; and

- reaching traditionally underserved education professionals, such as nonformal educators, high school teachers, and educators who work with urban and multi-cultural audiences.

The training program expects to reach over 40,000 teachers and other education professionals in the first two years.

For additional information, visit the EETAP Homepage via the World Wide Web at <http://eelink.umich.edu/eetap.html>, or contact:

Kathleen MacKinnon, EPA Project Officer,
at 202-260-4951 or by E-mail at
mackinnon.kathleen@epamail.epa.gov

Augusto Medina, EETAP Project Manager,
at 416-467-7993 or by E-mail at
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Joan Haley, EETAP Training Coordinator,
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U.S. EPA
Environmental Education Division (1707)
March 1997

ENVIRONMENTAL EDUCATION GRANTS PROGRAM

The Environmental Education Grants Program was established under Section 6 of the National Environmental Education Act of 1990. The goal of this program is to support environmental education (EE) projects which increase and enhance the public's 1) awareness and knowledge about environmental issues, and 2) skills needed to make informed decisions and to take responsible actions.

Congress has appropriated almost \$3 million for EE grants in FY1997. Schools and universities, state, local, and tribal education agencies, and non-profit organizations are eligible to apply for funds under this program. Since FY 1992, EPA has received over 10,000 applications requesting approximately \$300 million. Overall, Congress has appropriated approximately \$13 million for this program (between \$2.1 and \$2.9 million per year) and EPA has awarded over 1,200 grants (between 200 and 250 per year).

Grants of \$25,000 or less are awarded by EPA's ten regional offices and grants for more than \$25,000 are awarded by EPA headquarters. For FY 1996, each region awarded \$150,000 and headquarters awarded \$628,000. As mandated by law, the vast majority of grants are awarded for projects which request \$5,000 or less.

Each year EPA issues a "solicitation notice" which outlines the application procedures and grant priorities for that year. For FY 1997, EPA will fund projects which:

- build state, local, or tribal capacity to develop and deliver EE programs;
- use EE to advance state, local, or tribal education reform goals;
- educate teachers, students, community leaders, and the public about human health threats from environmental pollution, especially in children;
- improve teaching skills;
- promote environmental careers;
- educate low-income and culturally-diverse audiences; and/or
- educate the public via community-based programs or the media.

Headquarters will give preference to proposals which address state capacity-building, education reform, and human health threats.

EPA expects to award the FY 1997 grants during the summer of 1997. The solicitation notice for FY 1998 is also expected to be available in the summer of 1997 with applications due in the winter of 1998. The solicitation is published in the Federal Register which is available in many local public libraries. You may also obtain the solicitation and other EE grant information via computer at the "EE-Link" World Wide Web site through one of the following:

- <http://eelink.umich.edu>
- <http://www.nceet.snre.umich.edu/grant.html>

In addition, you may also contact EPA directly as shown below.

Grant applications are evaluated by EE experts that include representatives from EPA and other federal agencies, schools, universities, state agencies, and non-profit organizations. Awards are approved by EPA's Regional Administrators and the Associate Administrator for Communications, Education, and Public Affairs in headquarters.

For additional information not on "EE-Link," contact Diane Berger or Sheri Jojokian in the EPA Environmental Education Division at 202-260-8619.

**OFFICE OF SCIENCE AND TECHNOLOGY POLICY**

Science Division

Executive Office of the President

436 Old Executive Office Building

Washington, DC 20502

202-456-6130

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FAX TRANSMITTAL SHEET

DATE: 5/9/97

TO:	Judy Sunley, NSF	Fax: 703/306-0109
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	Judy Wurtzel, Ed	202/401-3095
	Bill Kincaid, DPC	202/456-7028
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NUMBER OF PAGES (INCLUDING COVER SHEET): 2

ED-NSF Working Group on Improving Math and Science Education

Meeting with Agency Representatives

May 9, 1 to 2:30 p.m.
472 OEOB

Agenda

I. Welcome and Introductions

Working Group Co-chairs:
Judy Sunley, NSF
Tom Corwin, ED

II. Agency Presentations and Discussion

DOE Sam Rodriguez
EPA Diane Berger for
Michael Baker
NIH Bruce Fuchs
DOT Elaine Joost
USDA Lois Davis
DOD Harvey Gerry
Kay Nissen
Smithsonian Maria Marable for
Ann Bay

III. Concluding Thoughts and Advice to the Working Group

Science Education Activities at the NIH

The NIH develops and sponsors innovative life science education projects for the public and for students and teachers in elementary and secondary schools, colleges, and universities. The programs and activities are wide ranging and include internships, curriculum supplements, booklets and videos, web sites, outreach programs for the community, grants and contracts, and partnerships. These programs and activities strengthen public understanding of research and the scientific processes that are crucial for health advances.

Need for Public Understanding of Science

Interest in science is innate, and love of experimentation is a characteristic of all healthy small children. By middle school and high school, many students find their enthusiasm for the life sciences waning. This is sometimes the result of exposure to science curricula and school-based science programs that emphasize facts rather than broad concepts and ideas. It is also a consequence of exposure to programs that do not convey the excitement of discovery. Some students, typically girls, lose confidence in their ability to do and understand science when they are in middle school or high school. Many adults, men and women, are ignorant of or phobic about science; they have, at best, only a weak understanding of medical and life sciences research, their strengths, their limitations, and their spinoffs. Innovative programs for children and adults are crucial if the public is to understand the role contemporary research findings can play in their lives.

NIH's Contributions to Science Education

The contributions of NIH to science education for students and the public fall into three broad categories: curriculum supplements, and local and national outreach programs grants and contracts for the development of science education projects.

Examples of each of these are listed below; more comprehensive listings can be found in the tables that follow.

I. Science Education Curriculum Supplements

The Immune System and Gene Testing: The National Cancer Institute (NCI) has produced packets for teachers on these two subjects. Each includes a script for a lecture, 40 slides, and answers to frequently asked questions. The slides can be printed directly from the Internet.

Vision: The National Eye Institute (NEI) distributes this curriculum supplement nationally to vision researchers, eye care professionals, and educators for use in elementary schools, where they can lead students in interactive sessions about vision.

NIH Curriculum Supplements Project: The Office of Science Education (OSE) is collaborating with NIH institutes to develop curriculum supplements for the nation's classrooms. The supplements integrate current research with health information. The first three supplements, which

address emerging infections, genome research, and cancer, will be ready for classrooms across the nation in 1999.

II. Science Education Outreach Programs

Summer Internship Program in Biomedical Research, coordinated by the Office of Education (OE), places high school, college, and graduate students in research laboratories at the NIH. Students present their data at the annual NIH Poster Day.

Bridging Education, Science and Technology (BEST) is a partnership between the National Institute of Environmental Health Sciences (NIEHS) and the Durham (North Carolina) Public Schools. A prototype molecular biology laboratory and training center was set up at a high school.

NIH Science Education Exhibit Booth, staffed by OSE personnel, travels to regional and national conferences of the National Science Teachers Association and the National Association of Biology Teachers. OSE contract employees distribute educational materials from the NIH to thousands of teachers and make presentations and run focus groups at some conferences.

III. Science Education Grants and Contracts

Science Education Partnerships Awards (SEPA) are grants from the National Center for Research Resources (NCRR). Scientists and educators form partnerships to improve precollege science education and public understanding of science.

Environmental Health Sciences Education: Instructional Materials

Development Awards are NIEHS sponsored grants for the development of educational materials for K-12 classrooms. Environmental health sciences issues are used to teach basic biological concepts and promote interest in and understanding of environmental problems.

Minority Initiative for K-12 Teachers and High School Students grants are awarded to individuals by the NCRR to provide them with hands-on health-related research experiences and encourage them to consider careers in the health sciences.

The Institutes, Centers, and Divisions (ICDs) are involved in the following activities and projects.

ICD	Program	Target Audience(s)	Description
Office of the Director (OD)/ OSE	Curriculum Supplements Project	elementary and secondary students and teachers	Curriculum supplements that address the science behind health issues. OSE collaborates with three institutes each year to develop these supplements. Institute scientists and other staff develop the topic; professional curriculum development organizations produce the supplements.
OD/OSE	Snapshots of Medicine and Health	secondary and college students and teachers public	Web site featuring original articles about hot topics in medical research (Research in the News) and profiles of people with a variety of careers that are key to the success of the scientific enterprise (People Doing Science).
OD/OSE	Mini-Med School	public	Lecture series that simulates a medical school curriculum. Lectures are given by NIH scientists. Nearly 2000 people have attended the series since it began in 1994. OSE advises organizations throughout the United States on establishing similar programs to link medical professionals with the public.

OD/OSE	Speakers Bureau	elementary, secondary, and college students and teachers scientific groups public	Catalog of NIH researchers available to talk about biomedical subjects to groups at schools and local and national organizations. In 1996, speakers addressed > 1,000 students and adults.
OD/OSE	Science Education Exhibit Booth	elementary, secondary, and college teachers	Booth displayed at regional and national science teachers association conferences. Staff members distribute NIH materials to thousands of teachers.
OD/OSE	Teacher Feedback Focus Groups	elementary and secondary teachers	Workshops for and focus groups of teachers conducted by OSE staff members to determine needs of the education community.
OD/OSE	Science in the Cinema	public	Summer film festival at NIH. A scientist or other expert leads a discussion about the verisimilitude of science or medicine depicted in a film. This program has attracted > 5000 people since 1994.

OD/OSE	HHMI/MCPS Student Teacher Internship Program	high school students and secondary teachers	Full-time summer internships in NIH laboratories. Program starts with a two-week intensive biomedical technology course. Students continue working in NIH labs throughout the school year. Teachers produce research lesson plans for classroom use. Program is supported by the Howard Hughes Medical Institute and Montgomery County Public Schools.
OD/OE	Summer Internship Program in Biomedical Research	high school, college, graduate, and medical students	Full-time summer internships in NIH laboratories for students from across the country. Includes weekly research seminars featuring prominent NIH scientists and workshops on career opportunities. Ends with a poster session at which students present their research.
OD/ Division of Career Resources	Student Career Experience	high school students	Full-time or part-time work in Public Health Service laboratories. Students combine classroom study with year-round study-related research.

OD/Loan Repayment Program	Undergraduate Scholarship Program for Individuals from Disadvantaged Backgrounds	undergraduates from disadvantaged minority backgrounds	Scholarships in academic areas that feed into professions of interest to the NIH. Maximum scholarships are \$20,000 a year. Awardees repay loans through work at the NIH for 10 weeks per year while in school and for one additional year after completion of the undergraduate degree.
NCI	Student Research Training Program	high school, college, and graduate students	Fellowships (2 to 6 months) that provide training and on-the-job work experience to students interested in biomedical research. Students learn basic methods in cancer research; qualified students move into more advanced NCI fellowship programs.
NCI/ Office of Research on Women's Health	Community Outreach Pilot Demonstration Program	public (senior citizens 55+, especially women)	Education and training in computer technology to improve consumer access to relevant healthcare information on the Internet.
NCI	Booklets and Slides: • Immune System • Gene Testing	secondary and college teachers other science and health educators	Packets of lectures and slides. Each includes 40 slides and an accompanying script that presents important concepts and answers to frequently asked questions. Slides can be printed directly from the Internet. Booklets are also available.

Clinical Center	Medicine for the Public	public	Six-session evening lecture series describing recent developments in medicine, new therapies, diagnostic procedures, and research. Sessions are made widely available through videos and informational brochures. Some 3,000 people attend each year.
National Institute of Allergies and Infectious Diseases	Introduction to Biomedical Research	minority college juniors and seniors, first year medical students, and graduate students	One-week program that describes careers in medical research and includes lectures, seminars, and interviews with scientists. About 60 students participate each year, and > 900 students have participated since the program's inception.
NIEHS	Bridging Education, Science and Technology	high school students (especially minority, economically disadvantaged, and female) and teachers	Partnership with the Durham Public Schools that includes a mentor program, teacher training, speaker series, internships, and science fair judges. The Molecular Biology Laboratory and Training Center established at Hillside High School serves as a model for high schools locally, regionally, and nationally.

NIEHS	NIEHS Centers: Community Outreach and Education Programs	elementary and secondary students and teachers public	Programs to increase K-12 and public awareness of issues and concepts in environmental health sciences. Twenty-seven centers exist at academic institutions, including Harvard U. School of Public Health and Columbia U. School of Public Health.
NIEHS	Science Teachers Workshop	elementary and secondary teachers	One-day workshops for teachers about biomedical research and the care and use of animals in research. Sessions include tours, presentations, handouts and lesson plans. These are run in collaboration with the North Carolina Association for Biomedical Research.
NIEHS	Environmental Careers Symposium	students and teachers	Lectures by experts in environmental health, information about summer research opportunities and undergraduate programs, and an essay contest.
NIEHS	NIEHS Scientists in the Classroom	elementary and secondary students and teachers	Demonstrations and hands-on science activities conducted by NIEHS staff and scientists at local K-12 classrooms.
NIEHS	ENVIRO-HEALTH: Clearinghouse on Environmental Effects	students, teachers public	Information on the Internet and by telephone about environmental health and related issues. The EMF hotline provides information about electric and magnetic fields.

National Institute of Neurological Disorders and Stroke (NINDS)	Traineeships in Biotechnology	students and teachers from historically black colleges and universities	Six-day course at NIH on biotechnology, with a special emphasis on recombinant DNA technology.
NINDS and National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)	National Hispanic Youth Initiative	Hispanic high school students	Workshops, laboratory tours, and lectures about the health sciences and scientific research. Students learn about needs of and issues affecting people in Hispanic communities. Several students have participated in NIH summer internship programs.
NIDDK	DC High School Student Biotech Program	DC high school minority students	Program to promote understanding of molecular genetics, recombinant DNA technology, and the Human Genome Project.
NIDDK	DC High School Teacher Biotech Training Course	DC high school minority teachers	Lecture and laboratory experience in biotechnology and cell and molecular biology. This is the first collaborative project established by NIH with a community-based inner-city organization that will assist in enriching a school curriculum.

National Human Genome Research Institute (NHGRI)	Short Course in Genomics for Faculty from Minority Institutions	teachers from colleges with substantial minority enrollments	Week-long course providing updates on developments in genetic technology, medical genetics, and ethics. Teachers learn how to incorporate genome information into existing courses and cultivate student interest in genome research.
NHGRI	High School DNA Sequencing Partnerships	high school students and teachers	Partnerships between six local high schools and NHGRI scientists. Students sequence DNA, learn about other genome technologies, and participate in tours, lectures, and related programs at the NIH.
National Institute on Alcohol Abuse and Alcoholism (NIAAA)	Science Education Program	elementary and secondary students and teachers, college students, and public	Four-part program that includes Adopt-a-School partnership with an elementary school, Take Your Child to Work Day, speakers and presentations, and the Small Business Innovation Research Set-Aside Program to develop and test science education materials, activities, and programs.
National Institute of General Medical Sciences (NIGMS)	Mini-Textbooks	secondary and college students and teachers	Booklets on topics in selected fields of biology (cell biology, structural biology, pharmacology) that explain discoveries and the importance of basic research. These are distributed and used nationwide.

PHS Division of Commissioned Personnel	Junior Commissioned Officer Student Training and Extern Program	undergraduate students in health-related disciplines and health professions	Paid professional experience for periods of 31 to 120 days at sites around the country, including the NIH.
National Institute Drug Abuse (NIDA)	Science Education Program	elementary and secondary teachers	Videos and curriculum materials that describe drugs and the brain.
NEI	Vision School Curriculum	elementary teachers and eye care professionals	A curriculum supplement about vision. This is being distributed nationally to vision researchers, eye care professionals, and educators.
NEI	Science Day and Science Club	elementary students and teachers	Outreach to two elementary schools that includes a day of hands-on activities at science "carnival" booths for all K-2 students and a club for 35 K-6 students who meet regularly to do scientist-led activities.
Many ICDs	Adopt-A-School	elementary and secondary students and teachers	Partnerships between institutes and individual schools. Scientists from an institute support school science activities through field trips, presentations, teacher workshops, pen pal programs, and science fairs.
National Institute on Deafness & Other Communication Disorders (NIDCD)	I Love What I Hear!	elementary teachers	Video and teacher instructional guide about the biology of hearing and noise-induced hearing loss.

National Heart, Lung, and Blood Institute (NHLBI)	Asthma Awareness Curriculum for the Elementary Classroom	elementary students and teachers	Curriculum supplement that teaches students about asthma and ways to help classmates with asthma.
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Grants and contracts that support science education K-12.

ICD	Program Title	Target Audience	Description
NCRR	Science Education Partnership Award (SEPA)	K-12	Projects to encourage scientists to work with educators and community organizations to improve student & public understanding of science, develop model programs to increase science literacy, and increase interest of young people in science careers.
NIEHS	Environmental Health Sciences Education: Instructional Materials Development	K-12	Educational materials that teach basic biologic concepts in grades K-12 using environmental health science issues. These enhance students' understanding of and interest in environmental health sciences.
NCI	Career Education Grant	High School	Structured short-term research experiences motivating high school, college, medical, dental and other health professional students to pursue careers in cancer research.
Division of Research Grants (DRG)	Research Supplements to Promote the Recruitment of Individuals with Disabilities into Biomedical Research Careers	High School (Disabled)	Research experience for qualified high school students with disabilities; participation in ongoing research projects during the summer or during the school year.
NCRR	Minority High School Student Research Apprentice Program	High School (Minority)	Opportunities for high school students that stimulate interest in biomedical careers.

NCRR	NCRR Minority Initiative: K-12 Teachers and High School Students	High School (Minority)	Personalized, hands-on health-related research opportunities that stimulate interest in research and in careers in the health sciences.
NIGMS	Research Supplements for Underrepresented Minorities	High School (Minority)	Health-related research opportunities for minority high school students that stimulate interest in careers in the biomedical or behavioral sciences.
NIDDK	MOTTEP (Minority Organ Tissue Transplant Educ. Program) Preventing the Need Grant	High School (Minority)	Supplemental funds for summer experiences for high school students (grades 10-12) to work in labs in one of 15 cities identified for the MOTTEP program; awarded to 30 students.
NIDDK	Cell/Molecular Biology Student / Teacher Learning Center	High School (Minority)	Enhances science background of and interest in science by secondary school science teachers and students in the District of Columbia.
NIDDK	The Discovery Gene Search Project	High School (Minority)	Supplement to Cell/Molecular Biology Student/Teacher Learning Center grant; 12 students from D.C. schools receive advanced training in molecular biology and gene sequencing.
NIGMS	Symposium on Career Opportunities in Biomedical / Public Health Sciences	High School (Minority)	Training pathways appropriate for minority students seeking careers in biomedical/public health sciences. Provides support for conferences that encourage junior and senior high and college students to pursue biomedical careers.

National Institute of Mental Health (NIMH)	NIMH COR Honors High School Research Education Grant	High School (Minority)	Hands-on research experiences and science education enrichment programs for students in racial and ethnic minority groups that are underrepresented in biomedical and behavioral sciences. Encourages interest in research careers.
NCI	Science Enrichment Program	High School (Minority)	Contract encouraging under-represented minority and under-served incoming 10th graders with demonstrated interest in science and/or mathematics to select careers in science, mathematics, and/or research.
NCRR	NCRR Minority Initiative: K-12 Teachers and High School Students	High School Teachers	Projects that help teachers keep pace with scientific advances in health-related areas. Teachers develop new discovery-orientated educational strategies and transfer new understanding to students.
NIEHS	Environmental Health Sciences Education: Teacher Enhancement / Development	High School Teachers	Teacher enhancement activities that translate into better comprehension by students of environmental health sciences and greater student interest in the subject.

ICDs at NIH also award science education grants and contracts targeted to undergraduate and graduate students and teachers.

Science Education Initiative

Agenda

May 1, 1997

9:30-10:30am, 7B-084

- I. Secretary Peña's Priorities
 - A. Memorandum of Understanding with NSF and DOEd
 - B. Science Education
 - 1. Net Day remarks
 - 2. Volunteerism Day remarks/Technology panel

- II. Summary of DOE's Science Education Projects and Programs
 - A. Request for Information
 - 1. Program Managers
 - 2. Lab Science Education Directors
 - 3. Field Site Science Education Coordinators
 - B. Response Form/Format

- III. Overall Objectives
 - A. Mission Oriented Science Education Initiative
 - 1. Capacity building
 - 2. Expand undergraduate research at DOE labs
 - 3. Partner w/ NSF, NASA and DOEd to train k-12 teachers
 - 4. Provide access to DOE's super computing capability to school districts using Internet Technology
 - B. Bi-partisan support from Congress
 - C. Deliverables to DOE Science and Technology Cluster (per John Angell, Senior Policy Advisor for the Secretary)
 - D. Deliverables to the White House

SCIENCE EDUCATION INFORMATION SHEET

Program Profile

Name of Project/Program: _____

Brief Description: *Five to eight lines describing the project or program.*

Key Features: *Any unique "selling points" or the "so what " of the project or program.*

Organizations Involved: *Which outside groups, if any, are partnering to make this project or program a success?*

Awards: *Has the project or program received any awards or other "3rd party" recognition?*

Does this project or program have the potential of utilizing internet technologies and/or distance learning techniques? If so, please briefly explain how.

Funding Profile

Funding Sources: *Which DOE Offices are providing funding for this project or program?*

FY '97 Budget:

DOE: *DOE total budget for this project in FY 1997. If possible, breakout the budget for each funding source listed above.*

Other: *Are other entities also providing funding for the project or program? If so, what is their contribution?*

Program Inception: *When did this project or program begin?*

Duration of Program: *How long is the project or program intended to last?*

Impact Profile

(Fill in this section as appropriate to the specific project or program.)

Academic

Number of Students *Break out the number of students served or benefitted by this project or program by level of education.*

Elementary: _____

High School: _____

Undergraduate: _____

Graduate: _____

Demographics of Students (if available): *If available, outline the demographics of the students listed above.*

External Training and Outreach

Segment of the Population served: *Who are the "customers" of the project or program, e.i. professionals, technicians, general public, non-traditional students...?*

Number of people in each segment: *Break out the number of individuals served or benefitted by this project or program by segment.*

Point of Contact

Name: _____

Phone: _____

Mailing Address: _____

Fax: _____

E-mail: _____

Science Education Information Sheet

Program Profile

Internet Training and Curriculum Development

Brief Description: Large impediments in the utilization of education technology in the classroom are not only the lack of network capabilities, modern computers and literacy of teachers in the newest of technologies, but equally important is the lack of quality curriculum and exciting materials for children. Argonne's educational programs assist Chicago-area teachers and students to learn the technology they will need to succeed in the jobs and classrooms of the 21st century. ANL instructs teachers how to harness the power of the internet and use it as a classroom resource and enables them to connect to the net through an "area network consortium."

Key Features: The core of the program is to integrate research and education through the use of the scientific capabilities of the DOE National Laboratories. Curriculum materials are in preparation which will utilize the unique facilities at the laboratories. For example, at ORNL, a unit in genetics will enable students and teachers to access genetic research, at ANL, an extensive multi-disciplinary instructional laboratory will be the thrust, while at LBL the key component will be focused on environmental sciences.

Organizations Involved: Initially, three multi-disciplinary DOE national laboratories, Argonne (Harold Myron), Oak Ridge (Linda Cain) and Berkeley (Eileen Engel) will develop a pilot program based on hands-on science using the unique capabilities of these institutions.

Potential of utilizing internet technologies and/or distance learning techniques: Internet and distance learning technologies play a key component in this program. The science education centers serve as the essential link between educators/students and DOE scientists in utilizing this new internet technologies.

Funding Profile

Funding Sources: The DOE Office of University and Science Education Programs funded this program in the past. Funding directly from DOE is not provided in FY97.

FY '97 Budget: DOE: None. School districts are currently providing funds for this program. However, the actual funding is well below what the actual needs are.

Program Inception: The program began in 1995, modifications were made in 1996 in order to absorb the loss of DOE funding.

Duration of Program: The program has viability and interest from the constituent users for at least the next five years.

Student Profile

Number of Students:

Elementary:

High School Teachers: 680

Undergraduate:

Graduate:

Demographics of Students:

Minority 20%

Non-Minority 80%

Point of Contact

Name: Harold W. Myron

Mailing Address: Division of Educational Programs

Argonne National Laboratory

9700 South Cass Avenue

Argonne, Illinois 60439-4845

Phone: (630) 252-3380 Fax: (630) 252-3193

E-mail: harold_myron@qmgate.anl.gov

or hmyron@dep.anl.gov

SCIENCE EDUCATION INFORMATION SHEET

Program Profile

Name of Project/Program: Science & Technology in Law Enforcement (SciCops)

Brief Description: The Office of University and Science Education (OUSE) at the Oak Ridge National Laboratory (ORNL) sponsors a summer camp named SciCops. SciCops is a camp with an investigative eye on science, technology, and law enforcement. Campers learn how science and technology are used in police investigations. Oak Ridge National Laboratory (ORNL) and the Knox County Sheriff's Department partner to bring this program to the students.

Key Features: SciCops is a one-week camp for students in grades 6 - 8. During the camp, students are involved in fingerprinting, radar, evidence analysis, scuba diving, search and rescue, arson investigation, forensic science, video enhancement, K-9 team, field trips, DNA analysis.

Organizations Involved: Knox County Sheriff's Department

Awards:

Does this project or program have the potential of utilizing internet technologies and/or distance learning techniques? If so, please briefly explain how.

SciCops is a hands-on science investigation summer camp. Information of SciCops is available on the web under Summer Camps at the following URL:
<http://www.ornl.gov/seer/programs/studentprograms.html>

Funding Profile

Funding Sources: Pay for services

FY '97 Budget:

DOE: None

Other: None

Program Inception: Summer 1996

Duration of Program: The program can continue as long as there is student interest.

Impact Profile

Academic

Number of Students

Elementary:	25
High School:	
Undergraduate:	
Graduate:	

Demographics of Students (if available): Regional students

External Training and Outreach

Segment of the Population served: Camp participants are students in grades 6 - 8. Most students are from surrounding counties. Some students are visiting family for the summer and are able to attend.

Number of people in each segment: Each camp can accommodate 25 campers.

Point of Contact

Name:	Peggy King	Phone: 423-241-3653
Mailing Address:	Office of University and Science Education Oak Ridge National Laboratory Mail Stop 6356 P. O. Box 2008 Oak Ridge, TN 37831-6356	Fax: 423-241-6776

E-mail: kingpt@ornl.gov

SCIENCE EDUCATION INFORMATION SHEET

Program Profile

Name of Project/Program: Oak Ridge National Laboratory/Systemic Initiatives Support

Brief Description: The Office of University and Science Education (OUSE) of the Oak Ridge National Laboratory provides K-12 teacher professional development programs in mathematics, science and technology for two National Science Foundation-supported Systemic Initiatives: Memphis Urban Systemic Initiative and the Appalachian Rural Systemic Initiative. The Office also provides support for State Department of Education-supported initiatives: Goals 2000 and Eisenhower Programs. The professional development activities are National Standards-based, hands-on programs customized for each customer.

Key Features: Instruction provided by OUSE education staff, aligned with National Mathematics and Science Standards. Teachers receive customized curriculum as well as all materials and supplies necessary to conduct activities with their students and other teachers.

Organizations Involved: ORNL, Memphis Urban Systemic Initiative (USI), Memphis City Schools, Appalachian Rural Systemic Initiative (ARSI), six-state ARSI Resource Collaboratives, Appalachia Educational Laboratory (AEL), higher education institutions in the regions, and regional and local school systems.

Awards:

Does this project or program have the potential of utilizing internet technologies and/or distance learning techniques? If so, please briefly explain how.

Use of the internet for curriculum enhancement and sharing is in the program design for all systemic initiatives. Frequently, curriculum is becoming web-based maintained by OUSE.

Funding Profile

Funding Sources: Memphis USI, ARSI, NSF, Dept of Education, regional school systems

FY '97 Budget:

DOE: ZERO

Other: Varies from sponsor to sponsor

Program Inception: New

Duration of Program: Varies from sponsor to sponsor

Impact Profile

Academic

Number of Teachers

Potentially thousands, exact number is unknown

Elementary:

X

High School:

X

Undergraduate:

Graduate:

Demographics of Teachers (if available):

Memphis USI: Urban Teachers

ARSI: Rural school systems in Appalachia

Regional school systems

External Training and Outreach

Segment of the Population served:

K-12 Teachers, most of whom are from "disadvantaged" school systems.

Number of people in each segment:

Point of Contact

Name: Terry L. Lashley/Peggy King

Mailing Address: ORNL OUSE, 5500A, MS 6356, Oak Ridge, TN 37831-6356

Phone: 423-574-0689/ 423-241-3651

Fax: 423-241-6776

E-mail: TL7@ornl.gov/YVZ@ornl.gov

SCIENCE EDUCATION INFORMATION SHEET

Program Profile

Name of Project/Program: LBNL Technology Outreach

Brief Description:

The LBNL Technology Outreach Program was developed to offer computer access and training to members of the local community, LBNL staff, and participants in the Center for Science and Engineering Education's programs. The Outreach Technology Education Center is equipped with a server and 10 computers. Training for students and school personnel has been conducted since the center opened.

A pilot class was conducted for parents of Berkeley YMCA Head Start children. The goal of the program was to teach parents basic computing skills that will enable them to better assist their school age children. They also learned how to construct a database, how access the internet, and how to use e-mail. A total of four classes held for intervals of three weeks, two hours per day, four days per week were given specifically for this group commencing November 1996 ending May 1997. Parents completing the program are recommended to pursue more computer training at the local community college or through the adult school program. A pilot class for Head Start children is planned.

Key Features:

The Outreach Technology Education Program is designed to address the technology needs of the local community and also LBNL staff wanting training in computer technology such as technicians, carpenters, painters, custodians, etc. It provides its participants a non-intimidating environment to explore unfamiliar territory. The program seeks partnerships with external agencies, such as Head Start, and HUD, to provide free training for groups not likely to have access to computer training.

Organizations Involved: Berkeley YMCA Head Start Program

Awards: Featured in the Oakland Tribune

Does this project or program have the potential of utilizing internet technologies and/or distance learning techniques? If so, please briefly explain how.

This program has great potential to utilize internet technologies. First it exposes the general population to the Information Age. It also makes it possible again for the underserved population to become computer literate,

and knowledgeable about opportunities available to them such as various career alternatives.

Funding Profile

Funding Sources:

FY '97 Budget:

DOE:

Other: Berkeley YMCA Head Start Program

Program Inception: 1995

Duration of Program: On-going if funded.

Impact Profile

Academic

Number of Students *Break out the number of students served or benefited by this project or program by level of education.*

Elementary: _____

High School: _____

Undergraduate: _____

Graduate: _____

Demographics of Students (if available): In the classes held for Berkeley YMCA

Head Start parents, the demographics are:

African Americans 48%

Latinos 48%

Asians and Others 4%

External Training and Outreach

Segment of the Population served: The majority of the participants were non-traditional, underserved students.

Number of people in each segment:

Point of Contact

Name: Marva O. Wilkins

Phone: 510 486 5640

Mailing Address: LBNL

MS 938C

1 Cyclotron Road

Berkeley, CA 94720

LBNL • LBNL Technology Outreach • Page 2

Fax: 510 486 6660
E-mail: mowilkins@lbl.gov

CALL TO ACTION! Research Opportunities for Faculty and Students at DOE National Laboratories Significantly Cut Back

Funding for science and science education has come under increased pressure as Congress and the White House attempt to balance the U.S. budget. One casualty of the last federal budget cycle that significantly impacts the number of research opportunities available for students and faculty was funding for the Department of Energy's Office of University and Science Education (USE). The programs operated by this office maintained the laboratory infrastructure and provided the financial support that enabled thousands of undergraduates, graduate students, and faculty to participate in research at DOE's national laboratories annually. While in the appropriation language Congress suggested that DOE's research offices assume responsibility for these programs, the reality is that in times of tight budgets, these research offices will not be able to provide the resources for faculty and student research participation appointments. The impact of this decision is just beginning to be felt as students and faculty interested in spending an academic term, summer, or thesis appointment at a DOE national laboratory are finding that these research opportunities either are gone or are significantly reduced. Elimination of the USE-supported programs at DOE's national laboratories represents a sizeable decrease in the total number of research opportunities for students and faculty throughout the academic community.

The Council on Undergraduate Research is urging its members to write to their congressional representatives to ask that Congress restore funding in FY 1998 for University and Science Education's research participation programs at DOE's national laboratories. It is important that you take the time now to write your letter as the FY 1998 budget is currently being written. To have an impact, more than a handful of letters will need to reach Capitol Hill. Congress will probably need to hear from a thousand members of the science community before it will take any action. While this may appear to be a daunting task, the effort is built one letter at a time, just as the pyramids were built one stone block at a time. Even if you wrote Congress on this issue last year,

it was probably too late in the budget cycle to have significant impact. Write again, letting your members know that this issue is still very important to you. If elimination of research opportunities can happen with DOE's programs, it can happen with those supported by other agencies. It is important that we act now!

What should your letter include? Your first paragraph should explain why you are writing. You should express your concern with actions taken by Congress to eliminate support for the Department of Energy's University and Science Education Programs and request that funds for this Program's national laboratory-based faculty and student research participation activities be restored to previous funding levels of \$20 million.

Your second paragraph should explain why the program is important to you, your students, or the academic community. If you have had students at one of DOE's national laboratories, or if you have been involved in one of these programs either as a student or faculty member, you should briefly describe the impact that experience had on your career or that of your students. If you or your students have not been involved in these DOE programs, you should still write! Discuss the importance of undergraduate research and let Congress know that more of these experiences are needed, not fewer!

In a closing paragraph, you will want to thank the member for his or her time and attention to your letter, and indicate that you look forward to his or her response on this issue.

How long should your letter be? The general rule is to keep your letter as short as possible if you expect it to be read. Congressional offices receive thousands of letters annually. The limited staffs these offices have simply cannot spend time reading lengthy letters. If possible, try to keep your letter to one page.

What are your representatives mailing addresses? There are a number of Web sites that provide a list of addresses, telephone numbers and E-mail addresses of members of Congress. Try any of the following sites: <http://www.senate.gov>, http://www.house.gov/mbr_dir/

membr_dir.html, or http://www.yahoo.com/Government/Legislative_Branch/Congressional_E-Mail_addresses/.

To whom should your letter be sent? Clearly, your representative and two senators should each receive a personally addressed copy. However, if each senator or representative receives only a few letters on a particular concern, the subject may be easy to dismiss. For this reason, CUR is also suggesting that you send a copy of your letter to the Chairs of the House and Senate Energy and Water Development Appropriation Subcommittees. A copy of the letter you send to your Representative should be sent to the Chair of the House Energy and Water Development Appropriations Subcommittee:

Honorable Joseph M. McDade

U. S. House of Representatives
Washington, D.C. 20515-3810

A copy of the letters you send to your Senators should be sent to the Chair of the Senate Energy and Water Development Subcommittee:

Honorable Pete V. Domenici

United States Senate
Washington, D.C. 20510-3101

A short cover letter addressed to the above individuals should accompany your letter. In the cover letter, simply state your concern with the action of the last Congress regarding support for University and Science Education at the Department of Energy, and note that you have written to your representative about having Congress reinstate funding for this important program and want to bring your concern to the attention of the Subcommittee responsible for DOE funding. If this strategy is followed, one office in both the House and Senate will receive copies of ALL letters sent to Washington, a number that we hope will be quite noticeable.

While you can stop at this point and feel satisfied that you have made a significant contribution, more really needs to be done. Please bring the situation regarding the elimination of Congressional support for research opportunities at DOE laboratories to the attention of other faculty at your institution and encourage them to write. Share your letter with them and provide them with a starting point for their own letters.

Support from college presidents is also very important. Please bring your concern to the attention of your president and urge that a letter be written on behalf of your institution. Depending on your relationship with your president, you might offer to write a first draft of the letter. You are likely to have more information about this DOE program than your president, and therefore have an easier time detailing the importance of this program to the faculty and students at your institution.

Finally, students involved in undergraduate research projects can write very compelling letters. You should consider bringing this situation to their attention.

CUR and the rest of the academic community have worked long and hard to create the faculty and student research opportunities that now exist. Despite these efforts, every year, thousands of students and faculty are not afforded this important educational experience. We must act to make certain that Congress understands that these research opportunities ARE important to the academic community and to the voters in their districts and states, and that these programs must be sustained. Your letter is critical, so please write it TODAY.

To help CUR track this effort, please send a list of representatives and senators you have contacted to Dr. Kenneth Beasley (E-mail: beasley@butler.edu, or Fax: 317-940-9519), Co-Chair of CUR's Science Policy Committee. 

Notes—

1. When you write your letter there are a variety of points that you might want to include or use as the starting point for your personalized discussion.

For undergraduates, involvement in ongoing research helps develop confidence, emotional maturity, perseverance, communication abilities, and independence, in addition to enhancing undergraduates' content knowledge and laboratory skills. These attributes serve our students well regardless of whether they pursue advanced degrees in science or immediately enter the job market.

For faculty, it is critical that they strive to remain current in their fields if they are to provide their students with meaningful educational experiences. As pointed out in his address at the 40th anniversary of the National Science Foundation, Dr. Frank Rhodes, President of Cornell University, stated, "It is no longer realistic to talk in terms of a terminal degree, whether high school diploma or Ph.D. In electrical engineering the half-life of information is now two years; in many other technical fields it is less than five. As a result, we need to devise better programs to enrich and elevate the job skills of workers throughout their lives." Enabling faculty to remain active researchers working on questions in the forefront of their fields must play a central role in any effort to ensure faculty stay current in their disciplines.

Finally, involvement of students and faculty at DOE laboratories serves both the facilities and the society that supports the participants' research efforts. In a study of DOE research mentors, a majority of those mentors said that research participants benefited the DOE laboratory's research programs, strengthened the intellectual climate of the facility research group, and allowed the DOE staff to move at a faster rate on their research projects. As students and faculty advance the laboratories' mission-related work, they also serve the society that pays for these experiences. Undergraduates working at DOE laboratories have made significant contributions to our understanding of the emissions of greenhouse gases and our knowledge about the structure of glass, to the design and operation of smart robots, to the achievement of the highest known transition temperature of organic superconductors, and to the development of a novel nitrogen sensor, among many others.

FAX

Judy Sunley, NSF 703/306-0109
Luther Williams, NSF 703/306-0399
Margaret Cozzens, NSF 703/306-0412
Larry Suter, NSF 703/306-0434
Eric Hamilton, NSF 703/306-0456

Christine Jackson, DOEd 202/260-0302
Carol Chelemer, DOEd 202/219-2198
Thomas Corwin, DOEd 202/401-6139
Deborah Spitz, DOEd 202/401-0220
Robert Stonehill, DOEd 202/219-2198
Judy Wurtzel, DOEd 202/401-3095

Bill Kincaid, DPC 202/456-7028
Anne Tenney, OMB 202/395-4817
Mary Cassell, OMB 202/395-4875

Date 5/5/97**Number of pages including cover** 7

FROM: Daryl Chubin
OSTP/EOP
Acting Assistant Director for
Social & Behavioral
Sciences

Phone 202/456-6130 (main)
456-6129 (Daryl direct)

Fax Phone 202/456-6027

REMARKS: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please Comment

REMINDER:

The Working Group meets with the agency representatives this afternoon (Monday, May 5, 2-4 pm) in 476 OEOB. A copy of the invites and the package each has received follow.

Please confirm by noon if you will be attending.

Thanks,



DOEd-NSF Working Group on Improving Math and Science Education (Other Agencies)

FAX COVER SHEET

DATE: May 1, 1997

<u>NAME</u>	<u>FAX NUMBER</u>	<u>OFFICE NUMBER</u>
Kent Hughes, DOC Associate Deputy Secretary	202/482-3610	202/482-6315
Tim Cohn, DOI	703/648-5295	703/648-5711
Frank C. Owens, NASA Director, Human Res. & Ed. Education Division	202/358-3048	202/358-1110
Michael Baker, EPA Acting Director, Ed. Div.	202/260-4095	202/260-4958
Sam Rodrigues, DOE Asst. to the Dir. of Energy Res.	202/586-4120	202/586-7141
Denise G. Borders, DOD Ass. Director of Accountability Assessment Research Evaluation	703/696-8924	703/696-4471 ex. 112
Harvey Gerry, DOD Acting Division Chief for Education	703/696-8924	703/696-4471
Kay Nissen, DOD Mathematical Coordinator	703/696-8924	703/696-4493 ex. 153
Kelly S. Coyner, DOT Deputy Admin. Res. & Sp. Prog.	202/366-4461 <i>phone</i>	202/366-3666 <i>fax</i>
Bruce Fuchs, NIH Acting Director for Sci. Ed.	(301) 402-3834	301/402-5224
Ernestine Blakemore, VA Employee Development Specialist	202/273-5797	202/273-4943

FROM: Daryl E. Chubin, OSTP
Phone: (202) 456-6129 Fax: (202) 456-6027

PAGES: 7 (including cover page)

Meeting of Agency Representatives with the
DOEd-NSF Working Group on Improving Math and Science Education:

MONDAY, MAY 5, 2-4 PM
476 OEOb (17th Street and Pennsylvania Avenue, NW)

As the enclosed letter describes, you have been designated by your agency to describe your agency's K-12 math and science programs and activities as they relate to the focus of the Working Group. The questions listed here on a separate page should be used to structure your brief presentation. The Working Group would also welcome written responses and/or supporting material that they can examine later.

Also included in this transmission is the Presidential Directive that created the Working Group, which is being coordinated by OSTP and the Domestic Policy Council. We apologize for the short notice, but the 90-day deadline requires quick assembly of available information and materials.

To facilitate discussion and not impose unduly on your schedules, we ask that the representatives from the following agencies participate in the 2-3 pm segment (DOC, DOI, NASA, EPA, DOE), and in the 3-4 pm segment (DOD, DOT, NIH, VA, and others not yet confirmed). You are, of course, invited to stay for the entire meeting if you prefer.

The co-chairs of the Working Group, Judith Sunley (NSF) and Tom Corwin (DOEd), will moderate the discussion. If you have any questions, please contact Daryl Chubin at OSTP - 202/456-6129 (phone), 456-6027 (fax), dchubin@ostp.eop.gov. Please confirm your attendance via email to dcoleman@ostp.eop.gov and include your first full name, last name, date of birth, social security number, and citizenship.

Thank you in advance. See you on Monday.

Enclosures: as stated



UNITED STATES DEPARTMENT OF EDUCATION
NATIONAL SCIENCE FOUNDATION



April 17, 1997

Honorable Hershel Gober
Deputy Secretary
Department of Veterans Affairs
810 Vermont Avenue, NW
Washington, DC 20420

Dear Mr. Gober:

The purpose of this letter is to seek your support for, and assistance in, a new Administration effort to strengthen mathematics and science education in America's elementary and secondary schools.

In his State of the Union address, President Clinton charged the Department of Education with developing voluntary national tests to measure student achievement in fourth-grade reading and eighth-grade mathematics. These tests will serve as tools for informing parents and teachers about their students' educational progress compared to that of students in other States and countries. Subsequently, in a March 1997 Presidential Directive (enclosed), the President directed that we create an interagency working group to develop an action strategy for using Federal resources to assist States and school districts in preparing students to meet challenging math standards in the eighth grade. A primary focus of this strategy will be to facilitate the preparation of students for the new eighth-grade math test, but the strategy will also more broadly address improvement of mathematics and science education at the elementary and secondary levels.

As set forth in the Presidential Directive, the main components of the new strategy will be the improvement of teacher preparation and practice, identification and dissemination of curriculum materials aligned with challenging educational standards, integration of technology into the classroom, and mobilization of resources from the entire community in order to increase student motivation to excel in mathematics and science.

The Directive assigned leadership of the interagency working group to the Department of Education and the National Science Foundation. We seek, however, the involvement of all Federal agencies that have a role -- or a potential role -- in the improvement of K-12 mathematics and science education, because only by mustering all available resources will a new Federal strategy achieve its maximum impact.

Toward this end, we are asking you to identify an individual from your agency to serve as a representative to the interagency group. That individual will be invited to a meeting of the group, in late April, at which time the group will ask him or her to: (1) describe your agency's

Page 2

K-12 mathematics and science programs and activities, particularly those that could help prepare students to take the new eighth-grade math tests, and (2) engage in a discussion with the representatives of the other agencies of additional activities or actions, undertaken by Federal agencies or even outside the Federal sphere, that could help accomplish our objectives. To help you think about how your agency might assist in these efforts, we have enclosed a set of questions for your consideration.

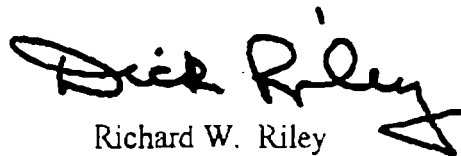
Please inform Judy Sunley at the National Science Foundation of your agency's representative to the working group, and direct any questions or comments on this effort to her. She can be reached at 703-306-1018. We would appreciate receiving your designation of a representative by April 23, 1997.

Thank you for your cooperation on this important assignment.

Sincerely,



Neal Lane
Director
National Science Foundation



Richard W. Riley
Secretary of Education

cc: ✓ John H. Gibbons
Bruce N. Reed

Enclosures

Interagency Working Group Questions to Agencies

1. What existing programs do you have that explicitly address the issues of standards-based, K-12 mathematics instruction (with a focus on K-8)?
2. What evidence can you provide, if any, about their success in improving the achievement of K-12 students in mathematics?
3. What other existing programs or activities do you have that could contribute to an action strategy focused on standards-based, K-8 mathematics instruction?
4. Can your agency consider modifications to the activities identified in response to questions 1 and 3 that might make them more relevant to the action strategy?
5. An important component of the action strategy is educating and engaging the public in the effort to improve mathematics achievement. Many agencies have significant outreach efforts to the public, have employees visiting schools, or bring teachers and students into their facilities. What agency activities might be able to contribute to educating and engaging the public in this effort?
6. What suggestions do you have for objectives or action strategies?

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

March 6, 1997

March 6, 1997

MEMORANDUM FOR THE SECRETARY OF EDUCATION
THE DIRECTOR OF THE NATIONAL SCIENCE FOUNDATION

SUBJECT: Preparing Students to Meet National Standards
of Excellence in Eighth Grade Math and
Improving Math and Science Education

Since the early 1980s, U.S. elementary and secondary school students have begun taking tougher courses, and we are starting to see the results. National Assessment of Educational Progress scores have improved in math and science, with gains in mathematics equal to at least one grade level. On the Scholastic Aptitude Test (SAT), average math scores are at their highest in 25 years, even as the number and diversity of test-takers have increased. However, the eighth-grade results of the 41-Nation Third International Math and Science Study (TIMSS), released last fall, show that the United States is below average in math and just above average in science. That isn't acceptable; in this technology-rich information era, our students need to perform much better in both subjects, but especially in math, if they are to excel at higher-level math and science courses that are critical to college admission and success and to citizenship, productive employment, and lifelong learning.

The first step in raising achievement is lifting expectations and setting high standards for what students should know and be able to do. Our National Assessment of Educational Progress, TIMSS, and the standards developed by the National Council of Teachers of Mathematics give us a solid framework to build on. Last month, to help parents and teachers learn who needs help, what changes in teaching to make, and which schools need to improve, I asked the Secretary of Education to develop a voluntary national test for individual eighth-grade students based on widely accepted, challenging national standards in mathematics. The national test will be available to States and local school districts to give to their students in the spring of 1999, and will measure whether students have reached a high level of mathematics proficiency.

The primary responsibility for achieving high standards rests with students, teachers, parents, and schools in local communities across America. However, it is imperative that we work to ensure that Federal resources support student success as well. We must ensure that Federal programs, research, and human resources are used as effectively as possible to help improve teaching and learning.

Therefore, I direct the Secretary of Education and the Director of the National Science Foundation to form an interagency working group and to develop an action strategy for using Federal resources to assist States and local school systems to prepare students to meet challenging math standards in eighth grade, and for involving the mathematics, scientific, and technical communities in support of these efforts.

The action strategy should include recommendations for the use of Federal resources to help States, local school districts, and schools to improve teaching, upgrade curriculum, and integrate technology and high-quality instructional materials into the classroom, as well as motivate students and help them understand how math concepts are applied in the real world. The strategy should identify significant Federal programs, activities, and partnerships available to improve teaching and learning, ensure that these resources are appropriately focused on helping students reach challenging math standards, and determine how these resources can best support State and local reforms. In developing this strategy, the interagency group should review the current status of improvements in math education and identify and address critical areas of need, drawing on research and input from educators and professional organizations.

Because teaching and learning in math and science are so integrally related, and because success in both subjects is vitally important in this information era, the working group should also review how Federal resources and partnerships with other organizations can help improve student achievement in science.

The working group should make its recommendations and submit its action strategy to me within 90 days.

WILLIAM J. CLINTON

#

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

ED-NSF Working Group on Improving Math and Science Education

Meeting with Agency Representatives

May 5, 2-4 pm

476 OEOB

Agenda

I. Welcome and Introductions

Working Group Co-chairs:
Judy Sunley, NSF
Tom Corwin, ED

II. Agency Presentations and Discussion

Order of presentation may change to fit schedules,
but current plan is in 2-3 pm segment,
the following agencies will speak:

(NIH), DOC, NASA, (EPA)
DOE

In the 3-4 pm segment, we have scheduled:

(DOD)(3), (DOT) VA

III. Concluding Thoughts and
Advice to the Working Group

NSA
Smithsonian



Framework Components

NASA Mission (Content)

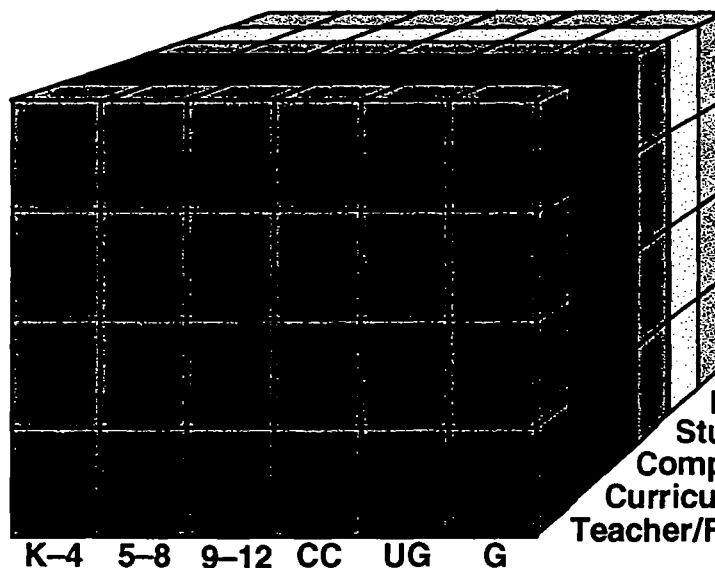
Strategic Enterprises:

Mission to Planet Earth

Space Science

Human Exploration and
Development of Space

Aeronautics



Education Implementation Approaches:

Mission, R & D, and Operations
Educational Technology
Student Support
Comprehensive/ Systemic Change
Curriculum Support & Dissemination
Teacher/Faculty Preparation & Enhancement

**Customer: Education Community
(Formal/ Informal)**

U.S. Geological Survey

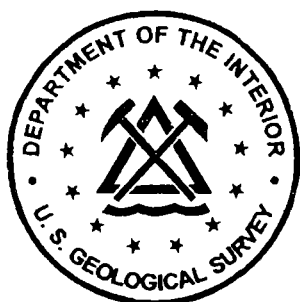
Excellence in
Education Initiative
Project Accomplishments
Fiscal Year 1995

Prepared by the USGS
Education Committee

Administrative Report
August 1996



U.S. DEPARTMENT OF THE INTERIOR
BRUCE BABBITT, *SECRETARY*



U.S. GEOLOGICAL SURVEY
GORDON P. EATON, *DIRECTOR*

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EDUCATION PROJECTS FISCAL YEAR 1995 ACCOMPLISHMENTS

"The life-enhancing potential of science and technology cannot be realized unless the public in general comes to understand science, mathematics, and technology and to acquire scientific habits of mind; without a scientifically literate population, the outlook for a better world is not promising."

—F. James Rutherford and Andrew Ahlgren, Science for All Americans

INTRODUCTION

U.S. Geological Survey (USGS) employees have a long history of participating in both formal and informal educational outreach activities—from sponsoring university field trips to visiting a child's classroom on career day. During the past 5 years, however, the USGS has placed an emphasis on conducting projects aimed at pre-collegiate educational outreach as a result of the Human Resources Initiatives program sponsored by the Department of the Interior. Through a project-oriented approach, the USGS Excellence in Education Initiative focuses on:

- External coordination with organizations involved in earth science education materials development.
- Student and teacher enhancement activities.
- Formal school partnerships.
- Special emphasis activities that support K-12 education.

The Excellence in Education Initiative funding has allowed employees to strengthen the bureau outreach program at National, regional, and local levels. In addition, preference is given to projects that involve interdivisional participation and represent an interdisciplinary approach to the earth sciences.

This compilation gives an overview of projects that were selected for funding during fiscal year 1995 in the categories of (1) Materials Development (print and electronic), (2) Student/Teacher Programs, and (3) Facilities Development. While most of the projects are completed in one-year, some are wider in scope and span multiple fiscal years.

Note that the projects funded under the Excellence in Education Initiative reflect only a portion of the educational outreach activities conducted by the bureau. Other activities that comprise the bureau's outreach program include:

- Coordinating collaborative work with other organizations in reforming earth science education standards for grades K-12.
- Providing a leadership role in the National Coalition for Earth Science Education.
- Conducting colleague reviews of earth science materials developed for the education community.
- Participating in international associations and symposia on earth science education.
- Representing the Department of the Interior on the National Science and Technology, Subcommittee on Educational Technology, and other interagency working groups.
- Conducting outreach presentations at National, regional, and local teacher conferences.
- Serving as mentors to students at adopted schools and participating in science fairs, field trips, and outdoor classroom activities.

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MATERIALS DEVELOPMENT

Project Title: Earth Science Multimedia (GeoMedia and Earth Power Series)
Funding: \$75,000
Category: Materials Development (Electronic)

The goal of the educational multimedia project is to assess the effectiveness of hypermedia technology as a vehicle for teaching middle school students about complex earth processes. In addition, the project focuses on an interdisciplinary team approach to designing earth science teaching materials for the home and school markets. Private sector partnership through a cooperative research and development agreement is another key element of the project. Accomplishments this year include continued evaluation by teachers of GeoMedia, volumes 1-2. The two GeoMedia prototypes were merged and revised based on teacher evaluation comments. Additional video and imagery were added. The underlying programming of the multimedia system was also revised to enhance performance on minimally-configured computers. A Windows-based version was also developed. The product version of *GeoMedia* is being marketed and distributed by InterNetwork Media, Inc., under a cooperative research and development agreement with the USGS. The project team conducted numerous outreach activities for teachers and students, including student focus groups to assist in designing the volcanoes title in the new Earth Power Series. The design of Earth Power series will extend beyond a presentation format and will allow students to create interpretations of the information. The goal is to develop software that is aimed at the home market and inspires a family approach to understanding the value of earth science information.

Project: Earth Science Teaching Packet for High School
Funding: \$13,000
Category: Materials Development

This cooperative bureauwide project is to develop a high school teaching packet on earth science by studying the ecosystems of South Florida, Cape Cod, and Los Angeles. The packet includes a four-color poster, timed lesson plans and activity sheets for students, and a teaching guide. Work continues on the writing and design of the packet by the contractor, Grafik Communications, Alexandria, Virginia.

Project Title: Earth Science Teaching Packet for Middle School
Funding: \$25,000
Category: Materials Development

This cooperative bureauwide project is to develop an upper elementary through middle school packet on earth science using the topic of volcanoes. The packet includes a four-color poster, timed lesson plans and activity sheets for students, and a teaching guide. All are included in a folder for easy filing and retrieval. Work was completed on the design and the writing continues into FY 1996. The project should be completed by June 1996 and printed by the 1996-97 school year.

Project Title: Educational Pamphlet to Accompany Bay Area Geophysics Maps
Funding: \$700
Category: Materials Development

The pamphlet describes the two full-color satellite maps with gravity and aeromagnetic contours with emphasis on how and why the maps were created (e.g., how gravity and magnetic measurements are made, why the fields change from place to place, and what these fields reveal about the local geology) and what they tell specifically about the crust of the Bay area (what some individual anomalies mean, how they relate to linear zones of seismicity, where are the basins, where are the old pieces of oceanic crust, etc.). The text is peppered with questions designed to lead the student to interpret the map on his or her own, or to serve as a framework for formal lesson plans. The pamphlet was written with input from local high school science teachers and college students from as far away as Florida (input was also gained from interested people on the Geology Online Newsgroup). The target audience for the publication is high school and community college teachers and students. Through the regional outreach office and through other means of distribution, 100 copies have already been distributed.

Project: Map Adventures Teaching Packet for K-3rd Grade
Funding: \$35,600
Category: Materials Development

This teaching packet for the lower elementary grades was developed to help meet the scientific education goals of the Federal Coordinating Committee on Science, Engineering, and Technology by developing materials to teach mapping concept, such as symbolization, to these younger grade levels. The project was completed and 68 thousand packets were printed in September 1995. The packets have been enthusiastically received by teachers.

Project: Multimedia Map Project -- Topographic Field Trip
Funding: \$8,000
Category: Materials Development

A multimedia map of the Washington, D.C., monument core area was developed to be released on a CD-ROM. The goal is to teach 8th grade students how to use digital spatial information to create map visualization by taking a "topographic field trip." Work was completed on the prototype CD-ROM and is in teacher testing in FY 1996. CD-ROM's will be pressed by July 1996 and available for the 96-97 school year.

Project Title: The Learning Web (USGS Education on the Internet)
Funding: \$20,000
Category: Materials Development

The goals of The Learning Web (TLW) are to establish an educational landmark on the USGS World Wide Web and to augment distribution of USGS teaching materials. An important step in this process is the design of the visual identity, such as banners, logos, and templates, that can be consistently applied to multiple products. The first phase of TLW focuses on redesigning printed documents for online publishing, primarily, the interdisciplinary earth science teaching packets. Accomplishments in FY 95 include: detailed conceptualization of TLW and the structure of activities showcased within it; and a flexible template that seeks to provide materials to teachers that are easy to work with and distribute within a classroom while enhancing the educational materials with new technologies when appropriate. Implementation of the design for TLW is scheduled throughout Fiscal Year 1996.

Project Title: Sources of Information on Educational Resources
Funding: \$4,000
Category: Materials Development

During the year, 7500 copies of the *Educational Resources Available From The U. S. Geological Survey* and 4,000 copies of *U.S. Geological Survey Sales*

Publications Especially Useful to Teacher were printed. These were sent to K-12 educators, workshop leaders, scout leaders, Nature Centers with an earth-science-program component, State Surveys, and USGS offices across the country. These numbers, however, do not indicate the total audience reached since camera-ready copies were sent to all of the USGS Information and Outreach Offices for their use to make multiple copies as needed. Further, throughout the year information from the educational resources list was published in publications such as *Free Materials for Schools and Libraries* and small regional newsletters directed at the education community.

Educational Resources Available from the U. S. Geological Survey cites the various free products prepared especially for teachers. It is used by outreach staff throughout the Survey to answer the thousands of requests from teachers about the availability of earth science teaching resources. The target audience for these publications include teachers of K-12 classes, Survey personnel doing outreach to educational groups, workshop leaders at universities, State Survey personnel, educational organizations and other earth science related agencies with an education component. The *U.S. Geological Survey Sales Publications That Are Especially Useful to Teachers* is a compilation of research products that teachers have also found useful in classroom presentations, displays, or as background information for the various earth science topics. Most of the products cited are low cost (under \$10—one of the key criteria when teachers are considering resources).

Project Title: Using Hypercard Animations to Visualize Geologic Hazards
Funding: \$5,000
Category: Materials Development

Funding from this project was used to purchase a 7100 Power Macintosh computer and software for the development and presentations on visualizing geologic hazards. Two HyperCard stacks on sea-floor spreading and river deltas were produced. Paper models and other computer programs were developed for presentations at the American Association of Petroleum Geologist, Geological Society of America, and the American Geophysical Union with a focus on using Hyper Card software to visualize geologic hazards. It is estimated that past copies of this type of educational media have reached hundreds of thousands of teachers, student, and general public audiences. To date, thirteen products have been published. A recent description of the Fossil stack was written up in the *Journal of Geoscience Education*, January 1996, page 84. The addition of the computer to this project will allow several years of compiling and publishing interactive computer programs describing geologic hazards and processes.

Project Title: When I Grow Up—Diversity Educational Outreach Poster
Funding: \$7,500
Category: Materials Development

The final edits and additions to the career booklet to complement the poster are pending. The original concept of activity and career sheets has been broadened into an overall career booklet. The booklet depicts the career disciplines of the USGS. Included in the book are cultural perspectives on the earth sciences including folklore and various uses of the Earth's natural resources. Fun presentations of Earth facts are also included. Target audiences for the publication are teachers and students in grades K-8. The Ethnic Minority Advisory Committee's education outreach task group is working to reach rural and high ethnic population areas with the message of *Diversity of People* as well as careers in earth science.

STUDENT/TEACHER PROGRAMS

Project Title: Anacostia Outreach Program, Inner City Field Geology Program,
Native American Outreach
Funding: \$3,000
Category: Student/Teachers Programs

The summer 5-week field program for children in Anacostia took place along Oxon Run. Support for this project was provided by the American Geological Institute, the School Without Walls, as well as a volunteer college student from Johns Hopkins University.

Students from McGogney Elementary participated in the McKelvey Forum. Students were taught about energy sources, production, and consumption. They worked on poster presentations and made a video of their learning experience. Teacher training was supplemented by a workshop entitled, *Say Yes to Science*. As a result of this project, the students presented their posters as part of the poster session at the McKelvey Forum and discussed their work with scientists at the forum. Their posters were subsequently displayed at the USGS Open House.

Dave Dominic (Michigan Department of Natural Resources) and Milton Pelcher (Saginaw Chippewa) helped to write an article for *Winds of Change* (Journal of the American Indian Science and Engineering Society). The article was based on last summer's Lake Huron Field Course for Chippewa teenagers. A display was made for Native American Earth Day for display on the Mall and included information about USGS programs for Native American kids.

Project Title: Great Basin Outdoor Resource Education
Funding: \$20,000
Category: Student/Teachers Programs

A Department of Interior "Excellence in Education" grant facilitated ten interdisciplinary field trips for over 400 at-risk Washoe County sixth graders. Seventy-five professional scientists from many organizations and community volunteers helped to make the trips a successful learning experience. Overwhelming response to the "Great Basin Mystery Trips" that examined the geology, botany, and meteorology of the Great Basin transition zone resulted in thirteen classes participating in the field trips and twelve classes put on a waiting list. Teachers requested to continue the field trip program in future years. The process of building community support for Great Basin outdoor education began with these field trips under USGS leadership. A survey of Washoe County teachers indicates strong support for a permanent Great Basin outdoor school. The USGS Excellence in Education grant also allowed a Northern Nevada interagency team (county, State, and Federal) assembled by USGS to investigate the operation and funding of residential outdoor education programs in California and Colorado. The Mt. Evans Outdoor Laboratory School that has been recognized as a National landmark in environmental education by the Department of Interior, National Park Service, was of particular interest to the team. The information gathered provided models for a Great Basin outdoor school management plan.

An EPA Environmental Education grant was awarded to the Nevada Natural Resource Education Council on Earth Day 95. With the additional support from local businesses additional resources were provided for the Great Basin outdoor education program. Great Basin overnight field studies in a 2-day format were carried out in the Fall of 1995 targeting 150 Washoe County at-risk sixth graders. Experienced naturalists were contracted to lead the overnight trips at Davis Creek Park. A film crew from the Washoe County school district videotaped the trips. All necessary camping equipment, supplies, educational materials, and food were procured by grant funds and donations. The field experiences included soil, astronomy, ornithology, and ecosystem studies as well as team building, drama, and Indian art activities. Nevada Governor Miller sent a letter of special recognition for the first EPA education grant awarded to Nevada and for efforts to further develop community understanding, interest, and confidence in outdoor education.

Site investigation for a permanent outdoor school has led to two possibilities. Promotional activities to secure a permanent site are on-going. A Phillips Environmental Partnership grant awarded to the Nevada Natural Resource Education Council in January of 1996 will help with promotional activities toward the purchase of a permanent field camp as well as increase the inventory of hands-on interdisciplinary educational materials for field experiences. These materials also support the new discovery and problem solving science curriculum recently adopted by the Washoe County School District.

Project Title: Hands-On Geology for Navajo Nation Teachers and Students
Funding: \$5,000
Category: Student/Teachers Program

This project represented a collaboration between the U.S. Geological Survey and Navajo Community College in Shiprock, New Mexico. The focus of this project is to address the issues of geology training for K-12 teachers on a local scale by developing a classroom and field-intensive summer course for Navajo Nation teachers. The 5-day course began with a classroom introduction to basic geologic principles, including rocks, minerals, and structure of the Earth, along with regional and local geology, and environmental issues. The highlight of the course was the field trips to local geologic features and the preparation by the teachers of their own comprehensive geologic teaching kits, including local rocks and fossils, representative major rocks, minerals, and fossils from different geologic periods, maps, and simple field gear such as hammers, hand lenses, and acid bottles. The collections were gathered in large portable plastic cases, and were organized and stored with samples, lecture notes, field notes, and reference literature.

The first Hands-On Geology Class was held Monday, June 12 -16, 1995, at the Navajo Community College in Shiprock, New Mexico. The class was attended by 14 enthusiastic teachers, and was taught by two USGS geologists and one professor from the Navajo Community College. Several of the teachers received graduate credit in geology at Adams State College in Alamosa, Colorado, for their attendance. Lectures were presented each morning and in the afternoon. Field excursions visited local geologic or environmental geology sites. The course was extremely well received, was well suited to the education level of the participants, and was requested to be taught in subsequent years at other locations in the Navajo Nation. At the end of the course, each teacher had assembled a set of lecture notes, including copies of overheads presented during the lectures, a set of representative geologic exercises and examples from texts and pamphlets, and a set of maps on environmental issues. In addition, each teacher had assembled a teaching kit from fossils and rocks collected on the field trips, and specimens provided of representative rocks, minerals, and fossils. The lecturers have assembled their own teaching kits as examples to be used in similar courses, along with a set of lecture notes. An abstract has been accepted for presentation at the Geological Society of America—Rocky Mountain Section Meeting in Rapid City, South Dakota in April 1996. Also an article on the course is in preparation for the *Journal of Geologic Education*.

Project Title: Paleontological Field Methods
Funding: \$2,000
Category: Student/Teachers Programs

A summer course was presented to Denver area metropolitan K-12 teachers on field procedures and paleontological field collections. The course trained teachers in field

data collection and the processing and utility of paleontological specimens and observations. A series of lectures in the field provided insights to teachers on the use of paleontological data in the geological sciences. The field program was provided for 25 K-12 teachers and was located in the Bighorn Basin in Wyoming. Detailed guidebooks and a syllabus were provided, including a road log from Denver to Wyoming.

Project: Partnerships in Education Program
Funding: \$8,000
Category: Student/Teacher Programs

The Partnerships in Education Programs establishes formal education partnerships between the USGS and schools located near USGS sites nationwide. Once a partnership is established, joint activities are developed to utilize USGS personnel as lecturers/demonstrators, subject matter resources, guides for field trips, judges at science fairs, tutors, mentors, etc.

The Partnerships in Education Program allows USGS personnel to enhance and support, over an extended period, the education objectives of partner schools. Executive Order 12821 (11/16/92) encourages Federal agencies to support science and mathematics education at the K-12 levels. Five new formal partnership agreements were established in FY 1995, bringing the nationwide total to 13. Partnerships in Education Schools include:

Dogwood Elementary, Reston, VA
Langston Hughes Middle School, Reston, VA
Cole Elementary School, Cheyenne, WY
Horace Mann Middle School, Denver, CO
Grandview Heights City Schools, Columbus, OH
Blackwell Elementary, Richmond, VA
Pike High School, Indianapolis, IN
Piedmont Elementary, Charleston, WV
Cedar Lane Center, Vienna, VA **
Murphy Elementary School, Haslett, MI **
Regional School District 11, Hartford, CT **
Federal Children's Center, Reston, VA **
Tuttle Junior High School, Indianapolis, IN **
(** Agreements formalized during FY 1995)

Project Title: Program Development with the YMCA
Funding: \$30,000
Category: Student/Teacher Programs

The educational partnership between the USGS and the YMCA's Frost Valley Environmental Education (EE) Center in New York became firmly established in FY 95. A contract between the two organizations was finalized and the YMCA

assigned a staff member to coordinate activities with the USGS and develop educational curricular using USGS materials and expertise. As an environmental scientist and educator of school-age children, teachers, and elderly citizens, the YMCA staff member gathered USGS materials, met with USGS scientists, and began developing plans for "folding" or scientific information into present YMCA curricula. He also created demonstrations and materials for a National symposium of YMCA Directors of Environmental Education Centers, and presented the USGS/YMCA partnership program to the Directors at a Frost Valley meeting last fall. The program plans of the joint venture were well received by the EE Directors and have generated considerable interest not only within the YMCA community but also with USGS employees around the country. The USGS/YMCA partners in New York is being considered as a pilot program for expansion to other USGS offices interested in using the model to educate people at YMCA facilities.

Project Title: Rocks in Your Socks -- Geology and You
Funding: \$400
Category: Student/Teacher Developments

Funding for this project was used to support the initiatives of "Dinosaur Ridge." This geologically historic area is designed to present hands-on, field-based learning about Dinosaurs and the regional geologic setting for students and teachers in the broader Denver metropolitan area. Success of the project has brought visitors from around the country. Funding for this project specifically targeted economically disadvantaged children from the Denver metropolitan area who otherwise would not have access to the Dinosaur Ridge and its wealth of geologic information.

Project Title: Teacher Training in Geochemical/Environmental Studies
Funding: \$600
Category: Student/Teacher Programs

This project was to conduct a 1-day workshop on geochemical environmental studies for high school teachers. The workshop was co-sponsored by the Jefferson County Department of Education and the Colorado School of Mines.

Project Title: Water Resources Education Initiative
Funding: \$131,000
Category: Student/Teacher Programs

In FY 95 one new poster was produced and published through the National Science Teachers Association. A second poster on the topic of Watersheds and Floods was initiated. Four poster were reprinted. A total of 554,000 posters were distributed through the projects various outlets and USGS distribution nationwide. The USGS and the NSTA developed an educational publication titled, *Water Matters*. This publication provides water resource curriculum for teachers in grades 3-8. The

publication received the Distinguished Achievement Award for Excellence in Education from the Educational Press Association of America. Pilot testing was initiated on the Water Resources Professionals Outreach Notebook for grades 9-12. Two new Cooperative Agreements were developed and signed, one with NSTA, and the second with the Groundwater Foundation. The coop with NSTA was developed for use by the entire USGS and funded separately. The coop with the Groundwater Foundation was developed to expand a cooperative program called Ground Water Guardian. The project coordinator or other USGS representatives attended and displayed Water Resources Education initiative information at the following events: (1) the Children's Water Festivals, (2) the Colorado State Fair, (3) Central Region Open House, and (4) A Taste of Colorado. These events reached over 1.2 million people.

FACILITIES DEVELOPMENT

Project Title: Education Collection for Portland--Vancouver Area
Funding: \$10,000
Category: Facilities Development

Development of the collection is well underway. The "Reduction-in-Force" and other reorganizational issues in the Geologic Division seriously impacted this project. The commitment is, however, to continue development of the center.

Project Title: Educational Rock Room -- Denver
Funding: \$1,000
Category: Facilities Development

Funds for the Educational Rock Room project were used to purchase a diamond saw blade and to pay for field expenses to collect fossils. The Educational Rock Room in Denver was established several years ago for the purpose of redistributing excess rocks, minerals, and fossils to teachers for educational use in the classroom. The original source of these samples was excess materials left-over from field studies by USGS geologists. This was later expanded to include the purchase of hard to obtain samples that were purchased from the Denver Gem and Mineral Show or through local "rock hounds." Excess rock core samples from the Core Research Center were also set aside for distribution to teachers. The facility supports teachers in grade, middle, and high schools throughout the Denver area. In addition to the Rock Room, USGS staff set-up and manned a USGS booth at the Denver, Fort Collins, and Colorado Springs Gem and Mineral Show. They distributed several hundred teacher packets to teachers as well as 10,000 copies of general interest publications. A nice batch of trilobites were collected by USGS geologists and added to the Rock Room.

Project Title: Geoscience Education Outreach Center (Geo Center), Denver, Colorado
Funding: \$7,500
Category: Facilities Development

Through this project, development continued on the Geoscience Education Outreach Center in the Denver Library. Usage of the materials in the GEO Center is growing steadily. Colorado passed new educational standards this past year. This marked a large increase in teachers visiting the GEO Center and using the Center as part of their "in-service" training. Throughout the year, 125 tours were given, 978 visitors came to the center, 2,005 reference questions answered or other assistance given, and 5,286 items circulated. Every item taken out of the GEO Center for classroom use impacts at least 20 - 30 children, and in many cases, more.

Project Title: Geoscience Education Outreach Center, (Geo Center), Menlo Park, California
Funding: \$7,500
Category: Facilities Development

Through this project, development continued on the Geoscience Education Outreach (GEO Center) in the Menlo Park Library. Funding was used to acquire materials, books, videos, rock sets, models and other materials.

Project Title: Geoscience Education Outreach Center (Geo Center), Reston, Virginia
Funding: \$7,500
Category: Facilities Development

Through this project, development continued on the Geoscience Education Outreach Center in the Reston Library. A wide variety of educational materials in various formats for USGS employees and teachers were added to the collection. The Coordinator worked with regional partnership schools to increase accessibility of the collection. The GEO Center coordinator attended the National Science Teachers Association meeting in Philadelphia to identify materials to be added to the collection and to assist teachers at the USGS booth. The GEO Center was also a major attraction for teachers at the USGS Open House. Although the system is difficult to monitor for assessing teacher usage of the collection, shelving statistics suggest that a minimum of 75 - 100 items are borrowed from the collections each month.

OTHER

Project Title: Education Outreach Travel and Printing Funds
Funding: \$26,600 (Transferred from other Accounts for a total of \$48,961)
Category: Other

Seven thousand dollars was used to support travel for teacher training or educational programs. Programs included work with Native American Indian populations through Haskell University, USGS participation in the Jason Project at the Hawaiian Volcano Observatory, and a PBS program by Wylie Poag on the geological history and environment of the Chesapeake Bay. Additional funds were used for:

- Printing of the Diversity Poster (\$6,800)
- Printing of the poster, *What? Me a Scientist!* (\$5,161)
- Reprinting of *Coasts in Crisis* for an FY 96 Educational Outreach Packet (\$15,000)
- Printing of *Dynamic Planet* for an FY 96 Educational Outreach Packet (\$15,000)