



EEOP Newsletter

Environmental Education Outreach Program (EEOP)
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Web version @
<http://www.nau.edu/eeop/newsletter>

The Newsletter

This newsletter is a service of the Institute for Tribal Environmental Professionals (ITEP) Environmental Education Outreach Program (EEOP). We've created this newsletter specifically for K-16 students, educators, and tribal professionals that are interested in learning more about environmental issues with a focus on air quality. The newsletter will also contain information about EEOP programs and activities.

Indoor Air Quality – Short Internship Program (IAQ-SIP)

The EEOP staff is still looking for local tribal environmental offices and other agencies, to host students interested in participating in the Indoor Air Quality - Short Internship Program (IAQ-SIP). A tribal environmental professional from each tribe is invited to submit Short Internship Program (SIP) applications via the EEOP website. The Tribal Environmental Professionals selected for the IAQ-SIP will select three high school students from their tribe and have each of them complete a SIP application. The students and professionals will spend three days on Northern Arizona University (NAU) campus learning about Indoor Air Quality (IAQ). Following the on campus training program, the tribal environmental professionals will work with the students to complete an air quality assessment of a tribal building back at home.

Rich Prill, a building scientist with the Washington State University Cooperative Extension Service and recipient of an EPA Excellence Award for work on Indoor Air Quality (IAQ), will be the lead instructor for the course.

The IAQ-SIP will cover the travel and lodging costs of the tribal environmental professionals. The IAQ-SIP will cover a portion of the student travel and lodging costs and a salary for the students while they complete the air quality assessment of a tribal building. The tribes are invited to provide a cost share of \$150 per student (total of \$450) and to continue paying the salary of the tribal environmental professional while they participate in the IAQ-SIP program.

With the support of the EEOP staff the IAQ-SIP participants will conduct IAQ assessments of a tribal building. The EEOP staff also has a variety of equipment available to help measurements such as CO, CO₂, temperature, humidity, and radon. This initial air quality assessment will be provided to the building manager for any appropriate follow-up.

If you would like to learn more about the IAQ-SIP contact Matthew.

Air Quality Curriculums – A Resource for Educators

There are a variety of curriculum resources available to educators and tribal professionals that want engaging activities that can be used in various settings. The previous issue of this newsletter reviewed several air quality curriculums. This issue continues with additional reviews. These curriculum resources provide guidelines on activities that will enhance understanding of air quality concepts. The curriculums also provide good background information for the instructor. For additional assistance in implementing these curriculums contact the EEOP staff.

Oregon State University – Community Education and Outreach Program

The Oregon State University – Community Education and Outreach Program distributes the Hydroville curricula featuring real-world scenarios, based on actual occurrences and real data. The Hydroville Indoor Air Quality Challenge Problem deals with an indoor air quality problem. Solving the problem requires an integration of skills in several disciplines: physical science, biological science, environmental health, mathematics, social studies, and language arts. Students assume the roles of professionals on a multidisciplinary team brought in to solve this problem. They must develop a solution based on data collected through laboratory experiments, interviews, research, and interaction with experts. The teams then formally present their solutions to the problem. Scenarios are structured to help students understand the complexity of environmental health issues and to emphasize that many real-world issues have no single correct answer.

<http://www.hydroville.org/>

ToxRAP™ (Toxicology, Risk Assessment and Pollution)

How do you know if the environment is causing health problems? In this innovative, three-part curricular series, students become health hazard detectives to cooperatively investigate environmental health hazards and their impact on human health. By applying an environmental health risk assessment framework, students learn how to state a health problem, investigate hazards and people who may be exposed and identify hazard control methods. A detective theme helps students to study air contaminants and learn the principles of toxicology and the process of risk assessment. Teaching techniques include illustrated stories, problem-based learning, games, graphing, hands-on experiments and case studies. ToxRAP™ is an achievement award recipient from the National Environmental Education and Training Foundation (NEETF).

<http://www.eohsi.rutgers.edu/rc/toxrap/>

Environmental Protection Native American Lands: A Cultural Approach to Integrated Environmental Studies. Grades 1-12, Second Edition

The Center for Indian Community Development at Humboldt State University produced this 52-lesson curriculum for grades 1 through 12 under a grant from EPA. Tribal leaders, educators, and the public identified the goals of the project. The curriculum adapts elements from other waste management instructional materials, but adds several original activities specifically to meet the needs of rural Native American children. It is designed to be empowering and emphasizes cultural themes.

<http://www.epa.gov/epaoswer/non-hw/tribal/educout.htm>

Air Quality Curriculum Project

The Air Quality Curriculum Project (AQCP) is an educational program implemented by the Environmental Educational Outreach Program (EEOP) at Northern Arizona University (NAU). The goal of AQCP is to provide a supplement to USEPA's Project AIRE that is tribally focused, culturally sensitive and teacher friendly. The AQCP develops sample case studies for teachers and students to use to investigate their local air quality issues. The AQCP Resources pages provide published, tribal, and Internet resources on air quality issues as well as supplemental student activities.

<http://www.nau.edu/eeop/aqcp/>

IAQ Tools for Schools Kit

The *Indoor Air Quality Tools for Schools* kit shows schools how to carry out a practical plan of action to improve indoor air problems at little or no cost using straightforward activities and in-house staff. The kit provides best practices, industry guidelines, sample policies, and a sample IAQ management plan. The voluntary guidance can save schools time and money so that resources can be directed toward educating children. The IAQ kit is co-sponsored by the National Parent Teacher Association, National Education Association, Association of School Business Officials, American Federation of Teachers, and the American Lung Association.

<http://www.epa.gov/iaq/schools/toolkit.html>

For more information on air quality curriculum contact Mansel.

Air Quality Education and Outreach for Tribal Professionals

An Air Quality Education and Outreach course is scheduled to start July 24, 2006. The four-day course will be conducted in Portland, Oregon. The course is designed to help tribal professionals prepare to conduct air quality education and outreach in their communities. Participants will learn about a variety of air quality activities that enhance learning about important air quality concepts. If you are a tribal professional interested in learning more about the course, please contact Mansel.

Fueling Excitement in Science through Renewable Energy

Any one over the age of 30 has watched a group of elementary school kids and wondered at their seemingly boundless energy. The EEOP staff has found the secret to harnessing this energy. The secret is to get them excited about science, specifically the science behind renewable forms of energy.

For three consecutive Tuesdays in May the EEOP staff teamed up with the NACA (Native Americans for Community Action) Pathways program, located in Flagstaff, to teach elementary school students about alternative energy such as solar and wind.

During the first session the students worked together to construct solar cars. They compared cars and worked to reduce friction and increase efficiency. Then it was time for the races. The first graders make the connection between shadows cast by clouds, trees, or themselves, and the efficiency of their car. One first grader realized that all she needed to do to win the race was to cast her shadow on the

other cars, leaving her car to run on full power to the finish. The students were making connections to science while having fun.

During the second and third sessions of this program the students constructed wind generators or “Pico-turbines”. They started by constructing a simple pinwheel to understand the physics of harnessing the wind. Then they learned about electrical generation through constructing a simple rotor /stator wind generator in which Faradays law is applied. (**Faraday's law** = A wire in a changing magnetic field will have a current induced in it.)

The EEOP Program Coordinator and Instructor Matthew Zierenberg stated, “The more interesting and exciting science experiences a student has at a young age, the greater their capacity and interest will be to learn later in life.” He also said, “We need to bring science to their level now, so that they can take us to a new level in science later on. This program is fueling excitement in these students and hopefully generating renewable energy for a lifetime of learning.”

If you would like more information about EEOP renewable programs please contact Matthew.

Student Summer Interns

Eight college students (five graduate students and three undergraduate students) have been selected to participate in the ITEP Student Summer Internship (SSI). The students have been placed with host sites around the nation; four will be in the Northwest, one in the Midwest, one on the East coast and two in the Southwest. Three of the interns will be working directly with tribal environmental offices, two of the interns are working with state offices, and three interns are working with EPA regional offices. All the interns are working on tribal issues. We had many highly qualified candidates this year, with over 80 applications submitted for the eight positions. If you would like more information about the ITEP Student Summer Internship program please contact Matthew.

Future Issues

In the next issue we will discuss the importance of good air quality in our schools. We will also share updates from the ITEP Student Summer Interns. We are interested in publishing articles from you. Please send articles sharing stories from students, teachers or tribal professionals influenced by ITEP or EEOP activities. Please send your articles to Mansel.

Credits and Contacts

The US Environmental Protection Agency (USEPA) Office of Air and Radiation provides part of the funding to make this newsletter possible. The newsletter is disseminated on various list serves, however, if you would like to join the newsletter list serve, contact mansel.nelson@nau.edu.

Our staff looks forward to providing new services and developing new programs, as well as continuing existing programs. We especially look forward to hearing from you. So please visit our website at <http://www.nau.edu/eeop> or contact us via telephone or email.

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