

Volume 4, No. 11

June 13, 2007 - Building a Presence for Science: Ohio eBlast

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1. From the Ohio Resource Center: Living Organisms in the Classroom

Science promotes a sense of awe and understanding of the natural world. One of the ways teachers do this is by bringing interesting items and organisms into their classrooms. There are many things to be considered when bringing living organisms into the classroom.

There are several resources in the Plants and Animals in the Classroom section of the New Teachers Survival Guide at http://www.ohiorc.org/for/science/new_teacher.aspx?id=2 that provide information on selecting organisms, setting up a habitat, and providing care. Be sure to take a look at these resources if you are considering adding living organisms to your classroom environment next year.

2. K-12: NSTA Fall Conference Alert: Sally Ride will be in Detroit. Will you?

The National Science Teachers Association is honored to announce Dr. Sally Ride will give the keynote address for the Detroit Conference on Science Education, October 18-20, 2007.

Dr. Ride was the first American woman in space and founded Sally Ride Science to encourage interest in science, math and technology by both girls and boys.

To register for the conference click here:

<http://www.nsta.org/conferences/2007det/registration.aspx>

3. preK-12: The Language of Nature workshop

<http://www.eeco-online.org/>

Nature writing retreat and institute in beautiful Cuyahoga Valley National Park

When: June 20-22, 2007

Early Bird Deadline Extended to June 15th!!! Very Affordable!!!

The Environmental Education Council of Ohio (EECO) is proud to continue to offer the only institute of its kind in Ohio that integrates the study of language arts and the environment.

The Language of Nature is designed for preK-12 classroom teachers (Academic Content Standards), but is open to all regardless of experience in creative writing or depth of environmental knowledge. Pre-service students are also highly encouraged to attend due to the fact that this institute meets NCATE EE standards.

Participants will also receive a copy of "A Sand County Almanac" by Aldo Leopold and, by completing the workshop, will be certified as an LEP program provider. Fairfield SWCD education specialist Vicki Kohli will be leading the LEP sessions.

Registration Fee*

Through June 15, 2007: \$130

After June 15, 2007: \$155

*Fee covers room, board and materials

Graduate Credit

Graduate credit will be available from The Ohio State University (Two credit hours available for \$112 per hour)

For more information call or visit:

Cuyahoga Valley Environmental Education Center at 330-657-2796, www.cvnpa.org or the Environmental Education Council of Ohio at 740-653-2649.

4. K-12: Free Resources for Science Teachers (from the NSTA web site)

Howard Hughes Medical Institute (HHMI) offers an interactive website for the primary grades, Cool Science for Curious Kids, at <http://www.hhmi.org/coolscience>. HHMI also offers BioInteractive, which provides virtual labs and other interactive activities. Visit <http://www.hhmi.org/biointeractive>

Free science fair projects can be found at the newly launched <http://www.free-science-fair-projects.net>, which includes award-winning projects from students all over the world. Students are also encouraged to enter the 2008 Virtual Science Fair Projects Contest; for details, visit the web site in the fall for the updates.

The Wright Center for Innovative Science Education at Tufts University offers fellowship opportunities for teachers of elementary and high school science, workshops for teachers and free posters and curriculum materials on request by teachers. Some materials are available on-line for free download. Materials range from Space Science and Cosmic Evolution to the Physics of Music and Ben Franklin and Electrostatics. Visit http://www.tufts.edu/as/wright_center to learn more.

Amazing Space, an astronomy and space science education program, uses Hubble Space Telescope's scientific findings to create free, online materials designed for K–14 students and educators. For more information, visit <http://amazing-space.stsci.edu> .

The SouthEast Atlantic Coastal Ocean Observing System (SEA-COOS) Virtual Waves Classroom, an online resource, offers free materials for learning about many aspects of waves. Available are a "Making Waves" poster, lesson plans, real-time data, and interactive models. For more information, see <http://seacoos.org/Community%20and%20Classroom/WavesClassroom> .

Urban Bird Studies is a set of free projects to study birds living in cities. Students across the continent can participate through classrooms or on their own to help scientists by counting birds and reporting their data. The projects are simple and inquiry-based, each with easy-to-understand questions of interest to the scientific community. Data submitted to the Cornell Lab of Ornithology are used for scientific and general-audience publications. All information is provided on the website. In July, "Celebrate Urban Birds!" through science, art, writing, and more. Free printed materials are available when you sign up on the website. Visit <http://www.urbanbirds.org> to learn more about Urban Bird Studies and Celebrate Urban Birds!

SENSORCITY, a NASA remote-sensing site, enables students and teachers from anywhere to program the city's elements themselves and remotely receive information and data from the city. To learn more, visit <http://www.marshall.edu/LEGO/RTI-SENSORCITYdoc.html> .

National Science Digital Library (NSDL) is a digital library of exemplary resource collections and services, organized in support of science education at all levels. Starting with a partnership of NSDL-funded projects, NSDL is emerging as a center of innovation in digital libraries as applied to education, and a community center for groups focused on digital-library-enabled science education. Consult <http://www.nsdl.org> for more information.

The Digital Library for Earth Science Education (DLESE) focuses on Earth sciences. DLESE lets users annotate some of the digital resources with tips, suggestions for using the resources in addressing concerns like diversity, and other review-like comments. Visit <http://www.dlese.org> for more information.

Project Oceanography is a live television program designed for middle school science students. Each week during the school year, you can learn about various ocean science topics right in your classroom. Programs are taught by real scientists and feature a call-in question-and-answer session at the end of each lesson. Tune in direct from the satellite; contact us about local cable channel access and videotapes; or watch past programs right from the web at <http://www.marine.usf.edu/pjocan/index.html> .

Conservation Central (National Zoo) is a habitat education program that explores the temperate forest, home of the giant panda and black bear, through online activities. See <http://nationalzoo.si.edu/Education/ConservationCentral> for more information.

5. K-12: Be a question writer for the National Ocean Sciences Bowl

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

The National Ocean Sciences Bowl (NOSB), managed by the Consortium for Oceanographic Research and Education (CORE), is a national competition for high schools on topics related to the study of the oceans. The NOSB consists of a round-robin/double-elimination format for teams of high school students; teams consist of four students plus one alternate and a coach. The format involves a timed competition of multiple-choice, short-answer, and cooperative thinking (team challenge) questions. Questions are drawn from the scientific and technical disciplines used in studying the oceans (physics, chemistry, geology, atmospheric science, biology, etc.) as well as from topics on the contributions of the oceans to national and international economics, history and culture.? For more program information visit www.nosb.org

NOSB is seeking scientists and graduate students to write team challenge questions for the 2008 NOSB competition to be held April 25-28, 2008 in Seward, Alaska. Team Challenge Questions are comprehensive thought questions that range from 2 minutes to 5 minutes for a team of 4 students to answer. If you are interested in writing questions, please respond by Friday, June 22.

Timing: NOSB will pay writers \$10 for each well-written and usable questions. Payment will be sent by December 2007.

Timing: Questions submissions needed by August 31, 2007.

Contact: For more information and sample questions, contact Henry Hope, 202-448-1228, hhope@coreocean.org

6. K-12: White House names eight science medalists – and one is from Ohio!

<http://www.msnbc.msn.com/id/18947741/>

MSNBC, May 30, 2007

A Nobel laureate, a pioneering cosmologist, a climate change researcher and the federal government's top expert on infectious diseases are among the recipients of the National Medal of Science named in late May by President Bush.

The medal ranks among the highest honors given out by the White House for scientific research. The program was established by Congress in 1959 and is administered by the National Science Foundation.

"The National Medal of Science honors individuals for pioneering scientific research in a range of fields, including physical, biological, mathematical, social, behavioral and engineering sciences, that enhances our understanding of the world and leads to innovations and technologies that give the United States its global economic edge," the White House statement said.

Because of the program's long selection process, these laureates are being honored with the 2005 National Medal of Science. The eight are to receive their awards from Bush during a White House ceremony later this year.

The recipient from Ohio is **Lonnie G. Thompson**, of **The Ohio State University**. (Congratulations Dr, Thompson!) Thompson, a glaciologist who has probably spent more time at high altitudes than any other person, was cited for providing explicit evidence of global climate change. He has led more than 50 expeditions to ice caps and glaciers on five continents. Thompson and his research colleagues have provided irrefutable evidence that the last half-century was the warmest period in recorded history.

To read about the other award winners, refer to the web site above.

7 K-12: Let Rachel Speak!

When: June 16, 8:00 pm

Where: Cleveland Public Theatre, Gordan Square Theater

LET RACHEL SPEAK! is a multimedia performance of drama, music, dance, art, and poetry. Celebrating the life and legacy of Rachel Carson, writer, scientist, marine biologist, ecologist and founder of the contemporary environmental movement.

The words of Rachel Carson come through today with poignancy and relevance. We can all be part of the solution.

Now is the time to order your tickets!

Now is the time to invite your friends and coworkers to this wonderful event.

Now is the time to send your contribution for the funding of this worthy project.

Now is the time to imagine the wonder and awe that will be shared on June 16, 2007, starting at 8:00 p.m.

Order tickets: \$15.00 each by sending your check to Sacred Space, 6211 Brownfield Drive, Cleveland OH 44129. Tickets will be held at the box office the night of the performance. For more information, contact sacredspace@cox.net.

Cleveland Public Theatre
Gordan Square Theatre
5415 Detroit Avenue
Cleveland, OH 44102

8 K-12: Last Chance for a Summer Online Course from the American Museum of Natural History!

<http://learn.amnh.org>

Registration closes June 25 for Summer Session Two of Seminars on Science. Sign up today for a graduate course in the life, earth or physical sciences, including The Ocean System. This integrated science course explores the physical characteristics of the ocean and how they frame the amazing ecosystems found within it. Play captain on a ship looking for deep sea vents and explore other free course resources at: <http://learn.amnh.org/ocean>.

Other summer courses include: Evolution; The Ocean System; Sharks and Rays and Genetics, Genomics, Genethics.

Seminars on Science offers award-winning online graduate courses in the life, earth and physical sciences. Designed by the American Museum of Natural History for K-12 educators, each six-week course immerses the learner in an area of contemporary research. Come away from your class with a deeper understanding of both the science and the tools of scientific inquiry. Courses are led by educators and Museum scientists and include rich web-based discussions. Graduate credit is available from several leading institutions.

Summer Session Two runs July 2 -August 12. For more information and to register, go to <http://learn.amnh.org> or call 800-649-6715.

9. K-12: Feel lucky? Read on...

Do you have a favorite ETA/Cuisenaire hands-on product? How about Reading Rods or Cuisenaire Rods? SunSprouts or SuperSource? Has one of our products helped boost students' test scores? We want to hear from you...Product reviews are a helpful tool for other teachers seeking out the best resources for their classrooms.

Every product on our web site now features a product review section. Share your opinions with us and you will be automatically registered for a chance to win a \$100 ETA/Cuisenaire gift certificate. Drawings will be held monthly.

[<http://cts.vresp.com/c/?ETACuisenaire/f8de29bc42/a8a4a213b0/56b98d9849>]

*Write a review by 6/30/07 and automatically be entered into a drawing to win a \$100 ETA/Cuisenaire Gift Certificate. The more you review the more chances of winning (1 review per product). Cannot be combined with any other offer, discount, bid, or past order.

10 Gr 4-9: SEPUP 2007 Summer Workshops:

Register by June 29 for one or more of these workshop!

*Investigating Food Safety

Tuesday, August 7 @ Cincinnati State, fee: \$25.00

*Investigating Environmental Health Risks

Wednesday, August 8 @ Cincinnati State, fee: \$25.00

*Groundwater Contamination: Trouble in Fruitvale

Thursday, August 9 @ Cincinnati State, fee: \$25.00

*P&G "PUR" Kit Training

Friday, August 10 @ Cincinnati State, fee: \$10.00

For each workshop you will receive:

- A complete SEPUP kit or PUR kit valued between \$404-\$555.
- Hands-on experience with each of the SEPUP Module activities.
- A certificate of attendance upon request for your professional development credits.
- Free continental Breakfast & Lunch (Breakfast only on Friday)

Summaries of the modules:

Investigating Food Safety (8/7, 8:30 AM- 3:00 PM)

This module introduces some of the issues associated with food safety. Students first explore food-borne illness as they investigate the growth of yeast, a common fungus that is used to model other effects of pathogenic microorganisms. They examine the different chemical additives, and their use in preventing microbial growth. Students then explore how chemical additives can be used to slow the oxidation of fresh fruit and to enhance the nutrient content of foods. They also learn how foods can be tested for the presence of chemical residues, such as pesticides. Finally, the students evaluate the use of different food preservation techniques, which are intended to improve food safety. The embedded assessment system focuses on students' ability to use evidence and identify trade-offs.

IFS includes these activities:

Introducing Food-Borne Illness, Optimum Conditions for Microbial Growth, Inhibiting Microbial Growth, Chemicals in Foods, Preventing Oxidation, Vitamin C Titration, Investigating Food Safety

National Science Education Grades 5-8 Content Standards Correlation:

Inquiry: 1, 2 • Perspectives: 1, 4,5 • Physical Science: 1 • Life Science: 1,3,4,5

Investigating Environmental Health Risks (8/8, 8:30 AM- 3:00 PM)

Students explore some basic concepts associated with environmental health risks. In addition to the risks associated with familiar activities, they explore risks associated with clean up of the Superfund (toxic waste) sites. Through hands-on activities, students explore concepts necessary for understanding and comparing environmental health risks due to the presence of chemicals. The concepts include; sampling, testing for contaminants, parts per million, and acute vs. chronic toxicity. They also investigate epidemiological methods that can be used to investigate risks from biological or chemical agents. The module ends with an activity in which students read about and apply their knowledge in evaluating evidence related to two environmental health risks.

IEHR includes these activities:

Identifying Risk, Sampling, Environmental Health Risks, Parts per Million, Acute Toxicity, Chronic Toxicity, Testing for Pesticide Residues, Evaluating Risk

National Science Education Grades 5-8 Content Standards Correlation:

Inquiry: 1, 2 • Perspectives: 1, 2, 3, 4, 5

Groundwater Contamination: Trouble in Fruitvale (8/9, 8:30 AM- 3:00 PM)

Exploring earth science concepts such as, the water cycle, map-making and interpretation, and groundwater pollution is the objective of this module. These concepts are used in an investigation of groundwater contamination in the fictional city of Fruitvale. Students design and carry out a plan for testing water from different parts of the city to determine the contamination's source, severity, extent, and rate of travel. This data is then used to analyze the risk to Fruitvale's water supply. Finally, students read about several clean-up options and participate in a role-play of a town meeting to decide which clean-up option to use.

GC:TiF includes these activities:

The Fruitvale Story, Part One, Understanding Groundwater, Exploring the Water Cycle, Interpreting Maps, Modeling Groundwater Contamination, Understanding Concentration, The Fruitvale Story, Part Two, Testing for Pesticide Concentrations, Drawing Isomaps, Making an Isoconcentration Map of Fruitvale, Damage Assessment, Decision Making

National Science Education Grades 5-8 Content Standards Correlation:

• Inquiry: 1, 2, 3 • Perspectives:1,2,3, 4 • Physical Science: 1, 3 • Earth Science : 1 • History: 2

“PUR” KIT TRAINING from P&G (8/10, 8:30 AM- Noon)

The PUR Purifier of Water technology was developed by the Procter & Gamble Company, in collaboration with the US Centers for Disease Control and Prevention (CDC), to purify contaminated drinking water so that it meets World Health Organization standards for safe drinking water. Each PUR sachet contains the same ingredients used in municipal water systems and provides visible signals that water is cleaner. One four-gram sachet provides precipitation, coagulation, and flocculation as well as residual chlorination.

PUR includes these activities

Students, organized into groups of four, will be given a container of turbid water, a weighing boat of PUR, a spoon, a filter, and a container for storing purified water. After observing the state of the “contaminated” water, students will add PUR to the water and stir the contents for five minutes. Students will be able to observe that the solids in the liquid will begin to form a precipitate and coagulate together. Once the chemical process is complete, students will filter the separated floc from the purified water. After allowing the water to stand for 20 minutes, to allow for complete disinfection, students will be able to compare the purified water with a sample of the turbid water.

Activity Extensions:

Lessons in consequences of unsafe drinking water, making drinking water safe, waste water treatment technology. Workshop participants will receive a kit to use with their students for these activities.

Ohio Standards Connection:

- Earth and Space Sciences- Benchmark C, Indicator 7-4
- Science and Technology- Benchmark A, Indicator 6-1

Questions? Contact Martha Brosz, Cincinnati SEPUP Coordinator.

fax: 513.569.4689 phone: 513.569.1710

email: martha.brosz@cincinnati.state.edu

11. Gr 5-12: OHIOVIEW – Summer Teacher Institute: “SATELLITES”

(Students And Teachers Exploring Local Landscapes to Interpret The Earth from Space)

WHEN and WHERE:

July 30 - August 3 (all day) (Ohio Aerospace Institute - Cleveland, OH)

WHO:

Teachers of Science, Social Studies, Geography, Technology, and/or Earth & Space Sciences

This is an awesome Teacher Institute this summer on Geospatial Technologies (Remote Sensing, GIS, GPS). *(And I know, because I participated in the second institute several years ago. ML)*

Participants attend a five-day institute that includes an overview of what remote sensing, GIS, and GPS technologies are and how they are useful to our understanding of Earth's surface and atmospheric processes.

Topics Covered include

- An overview of remote sensing
- Cloud identification, Atmosphere & Energy Budget
- Training in GLOBE Surface Temperature protocol
- Map creation
- Introduction to Global Positioning Systems (GPS)
- Introduction to Geographic Information Science (GIS)
- Inquiry-based investigations & projects
- Plus other remote sensing topics

If you want to attend, please send your name, home address, home phone, school district, school name, school address, school phone, grade(s) teaching, subject(s) teaching to Kevin Czajkowski at: kczejko@utnet.utoledo.edu

(Read the rest of this announcement to what you get and what will be required of you if you attend the Institute.)

All materials and topics will be presented in a format that can easily translate into classroom curriculum and linked to the Ohio Academic Content Standards.

This institute is highly recommended for teachers using the FOSS Earth History and/or Planetary Science materials.

ALL PARTICIPANTS RECEIVE:

- Free breakfasts and lunches
- FREE Infrared Thermometer (IRT) instrument (valued at ~\$225)
- FREE Global Positioning System (GPS) (valued at ~\$125)
- GLOBE certification in cloud, snow, surface temperature protocols
- Many other complimentary support materials
- 3 Graduate Credits in the Spring 2007 available at a reduced rate of \$375 total tuition (participant expense, if desired)

PARTICIPANT REQUIREMENTS INCLUDE:

- Attending the 5 day seminar and completing all activities during the institute
- Assisting your students to participate in a GLOBE inquiry-based investigation through a specified local field campaign (data collection

and data entry)

- Assisting your students in an inquiry-based research project created from the GLOBE field campaign (inquiry-based project will be modeled at the institute)
- Attendance at annual Conference in Cleveland in April 2008 to present students' inquiry-based research project
- * Fill out all pre and post questionnaires, plus evaluations during the institute

INSTITUTE'S GOALS:

- Every participant gains an understanding of the use and application of remote sensing hardware and software.
- Every participant gains an understanding of GPS hardware and software and the integration of it as a learning tool.
- Every participant gains an understanding of GIS hardware and software and the integration of it as a learning tool.
- Every participant gains an understanding of GLOBE's surface temperature protocol to participate in an inquiry-based investigation with your students.
- Every participant engages in inquiry-based professional development designed to model best practice in teaching and learning.

More information is available at: <http://www.ohioview.org/satellites/> or at: <https://email.utoledo.edu/exchweb/bin/redirect.asp?URL=http://www.ohioview.org/satellites/>

This institute is a collaboration of OhioView, NASA, Ohio AeroSpace Institute, the University of Toledo GLOBE Surface Temperature project. Significant funding for the program comes through the Ohio Board of Regents Improving Teacher Quality (ITQ) Program Grant number 05-34 and Ohio Space Grant number.