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CURRENT NEWS

1. ALERT!

An independent organization from Chester County, Pennsylvania is offering Vermont teachers access to 'hundreds of field-tested' 'NECAP Science Assessment' items and scoring guides. We want you to know... **This program was not developed with input from any of the NECAP states and that therefore we cannot comment on the quality or usefulness of the materials.** If you have further questions, please contact me.

gail.hall@state.vt.us

2. *Emerging Science on Vermont Public TV*

Vermont Public TV is currently providing the 2009 *Emerging Science* series for use in Vermont classrooms. Here are the dates and topics. Each 30-minute session airs at 9:00PM on the dates specified. At the end of this series a DVD of these broadcasts with GE-aligned classroom support ideas will be sent to each school. Be on the lookout for this outstanding supplement to your instructional materials!

1/27—Energy

2/3—Food Webs

2/10--Social Science (Robotics)

2/17--Transportation

2/24—Fresh Water

3. Nominate Outstanding 7-12 teachers for Presidential Award

Nominations were open until April 1, 2009 for the 2009 Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST). This year the annual award is directed to outstanding middle and high school teachers (grades 7-12). (In 2010 the award will be open to K-6 teachers.) This is an opportunity for Vermont teachers to share their classroom expertise and knowledge with others and be recognized for the wonderful work that they do all the time in their classrooms. To nominate a colleague (or yourself!) go to this website.

<http://www.paemst.org/controllers/nomination.cfc?method=nominate> Any other questions?

Contact gail.hall@state.vt.us

VERMONT DOINGS

4. *Engineering is Elementary* Comes to Vermont!

Vermont has received a grant for the training of 24 grades 1-6 science teachers in the use of *Engineering is Elementary* instructional materials. These materials originate from the Boston Museum of Science projects designed to expand Science, Technology, Engineering and Mathematics instruction in the New England area. Vermont administrators and curriculum coordinators will attend a 2-hour workshop on March 30 to learn more about this project. After completing a brief application, selected Vermont teachers will participate in a 2-day training (June 25-26) and receive materials for their classroom. For further information contact Kathy Renfrew at the Department of Education. kathy.renfrew@state.vt.us

5. Spring Mathematics/Science Network Meetings Address STEM topics

The Spring Mathematics and Science Network Meetings are now scheduled and will address topics in Science, Mathematics, Engineering and Technology issues. These meetings will be held at three sites in Vermont and will offer a choice of math and science and math/science (integrated) workshops. Participants may choose to attend K-12 workshops focusing on graphing, collaboration, problem-solving, data analysis and inquiry.

Registration and detailed descriptions of workshop choices will be posted on the department Web site at: http://education.vermont.gov/new/html/pgm_curriculum/science.html or http://education.vermont.gov/new/html/pgm_curriculum/mathematics.html

6. Vermont Science Initiative is Right for You!!

Looking for support with science? The Vermont Science Initiative (VSI) is accepting applications for its 2009-10 professional development opportunities for K-8 teachers. The VSI Tier 1 program develops science teacher leaders in a three year curriculum leading to a Master of Arts in Science Education. This graduate program incorporates coursework in science content, pedagogy, assessment, and leadership.

VSI Tier 2 is a four credit, one year professional development program that focuses on mastering science-related content, acquiring science-teaching skills, and improving general teaching practice. VSI Tier 2 engages teachers in a one-week summer institute in content-based science inquiry and regional meetings during the school year that address best practices in the teaching of science. This program is specifically designed for supervisory unions, districts, schools, or ESA regions.

For more information and an application visit www.vtscience.org. Questions can be directed to Dr. Liz Dolci, program director at Elizabeth.Dolci@jsc.edu or Ms. Renee Affolter, VSI Program Associate at Renee.Affolter@jsc.edu

7. VSTA Membership

NOW is an opportunity for you to join your Vermont science teaching colleagues as members of the Vermont Science Teachers' Association. Lots of sharings and great ideas!!! Check out the website and sample of the latest Newsletter.

<http://www.uvm.edu/vsta/>

8. 4-12: A Forest For Every Classroom

Shelburne Farms is sponsoring a new Grade 4-12 outdoor program. A Forest for Every Classroom (FFEC) is a year long professional development series for educators, aimed at providing the inspiration, knowledge and skills required to transform standards-based classroom teaching into effective and exciting place-based education.

Through a multidisciplinary approach to exploring the natural landscape, place-based education and community engagement, FFEC fosters the creation of very diverse curricula, across grade levels, subject areas and duration of unit, all using local resources as tools for learning.

<http://www.shelburnefarms.org/PDFs/FFECBrochure2008.pdf>

STEM INFORMATION

9. K-12: Enter to Win a Wireless Computer Lab from Discovery Education

Think about how The 21st Century Classroom - interactive whiteboard, notebook computers, wireless cart, projector, printer and document camera - could extend your teaching power.

Enter once per day for your chance to win one of five Grand Prize packages including a 21st Century Classroom and a \$5000 digital media grant from Discovery Education. In this 7th annual Win a Wireless Lab Sweepstakes you could win one of five grand prize wireless computer labs for your school, including 20 laptop or notebook computers, interactive whiteboard, mobile cart, projector, printer, wireless access points, portable document camera, digital camcorder, and a \$5,000 digital media grant from Discovery Education.

In addition to the five grand prizes, Discovery is giving away 30 additional prizes, including projectors, notebook computers, and digital camcorders!

Enter once per day until May 1, 2009 to improve your chances!<http://cdwg.discoveryeducation.com/1208/>

10. Gr 7-12: UMASS NANOTECHNOLOGY 2009 SUMMER INSTITUTE

- " Monday to Friday, July 20-24, 2009 at UMass Amherst
- " Funded by the National Science Foundation
- " Sponsored by the STEM Education Institute and the Center for Hierarchical Manufacturing
- " Middle and High School Science, Math, and Technology Teachers
- " \$75/day stipends (\$375 total), materials, parking, lunches
- " Housing (new air conditioned dorms) and meals for those outside the commuting radius
- " 3 graduate credits available at reduced cost; free PDP's (Professional Development Points)
- " Ongoing partnerships with UMass Faculty

Nanotechnology deals with materials on the scale of nanometers. A nanometer is one-millionth of a millimeter, or about 10 atomic diameters. Such materials can have surprising and useful behaviors and properties.

Applications of this rapidly growing field include regenerative medicine, fabrics and construction materials of unprecedented strength, ultra-high performance computers and data storage, more efficient solar photovoltaic cells, and much more. Activity in this field cuts across the traditional disciplinary boundaries, and involves chemistry, physics, biology, and engineering. www.umassk12.net/stem,

11. 7-12 : International Polar Year

Announcing a unique new opportunity for middle and high school STEM teachers.

Funded by NSF and by UMass Amherst, STEM Polar Connections is designed to promote the teaching of science concepts and processes related to the Polar Regions and to emphasize connections to State and National Science Standards for the middle and high school. It includes a one-week summer institute and academic year online discussion forums, and features a variety of proven techniques for effective teaching, including inquiry-based teaching, cooperative learning, and methods for formative assessment of student learning. Participants will be expected to use selected materials in their classrooms and also to aid in the dissemination program.

Features of the program include:

- " June 28 - July 2, 2009, at UMass Amherst plus academic year online discussions
- " Sponsored by the STEM Education Institute and the Climate System Research Center
- " Middle and High School Science, Math, and Technology Teachers

- " Housing (air conditioned single dorm rooms, 10 minutes away), meals, and travel costs for teachers outside the commuting area
- " \$75/day stipends (\$375 total)
- " Funds to attend conferences for dissemination
- " 3 graduate credits available at reduced cost; free PDP's (professional development points)
- " Ongoing partnerships with UMass faculty

The summer institute will focus on current science research in the polar regions, and making connections to the science curriculum within participating teachers' regions. It will address the rapid changes occurring in the physical environment, the corresponding impact on the biosphere, and the history and politics of the polar regions. During the institute, participants will preview the curriculum units provided and draft a plan for incorporating materials into their classroom instruction and commit to dissemination within their district and at least one regional venue. They will complete their plans in the fall, using the online discussion forums to facilitate collaborative efforts among participants and UMass faculty. www.umassk12.net/ipy

12. K-6: CEE Children's Engineering Educators, LLC

The site, with a subtitle: “Developing Technological Literacy at the Elementary Level” has been created by a group of elementary school teachers from Virginia who “believe in high standards and rigorous academic instructional programs, ... that the study and use of technology provides a creative and active way to apply state and national learning standards.” The site has links for PD, Teacher Resources, and Ready to Use Activities for elementary students <http://www.childrengineering.com/>

13. K-12: Science of Spectroscopy

This site features a wiki-based effort to tell the story of spectroscopy -- the use of light to study matter. Find answers to questions about the basic theory of light, energy, and the electromagnetic spectrum. What is light? How is it created? How does it affect matter? What is energy? Learn about everyday applications of spectroscopy, including CAT scans, Mars exploration, MRIs, microwaves, sunscreen chemistry, the chemistry of vision, uses of lasers, and more. (National Aeronautics and Space Administration) <http://www.scienceofspectros copy.info/>

CLASSROOM MATERIALS

14. PK-2 Curious George and PBS “Curiosity Centers”

New activities from CURIOUS GEORGE focus on earth science and Societies might consider leveraging GEORGE's appeal with preK-2 children to celebrate Earth Day, April 22, 2009. Age-appropriate investigations are detailed online at pbskids.org/curiousgeorge/parentsteachers/activities/ aptly named "Curiosity Centers". At these "Curiosity Centers" (or activity stations), children can make their own discoveries about recycling, wind, water drops, and the properties of soil and sand. A related episode from CURIOUS GEORGE, which might help introduce the topic of earth science to children, can be ordered for free by contacting gay_mohrbacher@wgbh.org

15 PK-3: Enchanted Learning has multiple resources for science (and more)

Enchanted Learning produces children's educational web sites which are designed to capture the imagination while maximizing creativity, learning, and enjoyment.

The site is easy to navigate, with text and graphics to make finding what you need easier. Their mission is to “produce the best educational material, emphasizing creativity and the pure enjoyment of learning.” Check it out and see if you agree that the site has much to offer! <http://www.enchantedlearning.com/Home.html>

16. K-12: More snow and ice from the National Snow and Ice Data Center

The National Snow and Ice Data Center has some cool resources, including lots of current data for teachers and educators. If you want archived data they will send you "Into the Arctic" CD for free that has educational activities and ice core data from Greenland ice sheet prior to 1998). http://www.nsidc.org/pubs/education_resources/ and <http://www.nsidc.org/data/arcss069.html>

17. K-12: New NIH Curriculum with a Focus on Diabetes Available for Free

Schools across the country now have free access to an innovative set of teaching tools designed to increase the understanding of science, health and diabetes among American Indian and Alaska Native students from kindergarten through the 12th grade. The comprehensive new curriculum, called "Health is Life in Balance," was launched Nov. 12 at the Smithsonian's National Museum of the American Indian in Washington, D.C.

The curriculum integrates science and Native American traditions to educate students about science, diabetes and its risk factors, and the importance of nutrition and physical activity in maintaining health and balance in life. Applying an inquiry-based approach to learning, the curriculum builds research skills in observation, measurement, prediction, experimentation, and communication. Further more, the curriculum has healthy lifestyle

messages and innovative science activities for all students, not just Native Americans.
<http://www3.niddk.nih.gov/fund/other/dets/>

18. K-12: Do you teach environmental education? Do you use research?

The Pacific Education Institute is asking for your input on a quick 5-10 minute survey. This survey will gather information about how teachers and administrators use environmental education research to enhance their work in the classroom. We seek input both from environmental education practitioners as well as those who are not involved in environmental education. The survey can be accessed through the link below. http://www.surveymonkey.com/s.aspx?sm=3ygdSjO7egDjAcsiHgV4eA_3d_3d

Those who complete the survey and provide contact information will receive the Pacific Education Institute's Field Investigation Guide and/or the "Washington Wetlands" Guide.

The survey will be opened until March 1, 2009.

19. K-12: Is it cold enough for you? Maybe now is the time to study snowflakes!

Kenneth G. Libbrecht, of Caltech has posted an enormous collection of snowflake photos (photomicrographs) on his SnowCrystals.com website. He also has tips for photographing snowflakes and a few activities that would be appropriate for K-12 students. You will be amazed at how many different shapes there are, and how many different ways there are to classify snowflakes.

You may want to start your own more permanent collection this winter. Put some (glass) slides in the freezer for at least several hours before collecting and put a can of spray adhesive* (used for mounting photographs) outside to chill for at least 30 minutes as well. When there is snow falling, dress warmly, and take the slides and a cardboard box outside with you. Place the box on its side in a protected area out of the wind. Push the flaps open to allow side access to the inside of the box, and place the cold slides inside. Take one slide out at a time, spray one face lightly with the adhesive (following directions), and hold it out to collect some snowflakes. When you have a good assortment, without too much overlapping, place that slide in the box, and repeat this action with another slide. When all slides have been exposed, carefully take the box inside, and allow the slides to come to room temperature. Each should have a snowflake ghost image left in the adhesive. These slides can be studied with a microscope or hand lens, and if placed in a slide storage box can be saved for later viewing and study.

*You could also try hairspray, spray clear plastic, or spray fake skin (from the pharmacy, used to cover small nicks or scrapes <http://www.its.caltech.edu/~atomic/snowcrystals/>)

20. K-12: Earth Day T-Shirt Design Contest

Inspire! Educate! Do something positive for the environment! Have your students get involved for Earth Day 2009 by having your students enter the Earth Day 2009 T-Shirt Design Contest sponsored by the National Environmental Science Education Center, Inc. There are four divisions, K-3, 4-6, 7-9, and 10-12. National winners in each division will have their art design appear on t-shirts and win a \$50 US Savings Bond (Series EE).

Each student chooses 1 of these 3 options for expressing themselves:

1. Create a unique environmental design artwork that you would like to see on a T-**Shirt!**
2. Create a catchy slogan that would inspire others!
3. Combine your unique artwork with a slogan!

This contest is perfect for all ages and abilities. You choose the best entry from your school and submit it for consideration. Entries must be received no later than midnight of **March 13, 2009**. <http://www.eeweek.org/>

21. 4-7 GREENS GUIDE Explores Sustainability

THE GREENS Activity Guide springs from a PBS Web site that encourages kids ages 9 to 12 to explore sustainability and take action wherever they cans. How-to information in the Guide pairs hands-on activities to deepen kids' understanding of topics like recycling and global warming with campaigns to reduce junk mail and get drivers to stop idling cars. The Guide can be downloaded at <http://meetthegreens.pbskids.org/features/> <<http://meetthegreens.pbskids.org/features/>> and FREE print copies may be ordered by putting "THE GREENS" in the subject line of an e-mail to wgbhmaterialsreq@wgbh.org

22. 5-8: Interactive Online Weather Resource

Both earth science teachers and general science teachers will be interested in this colorful and interactive website that shows worldwide weather. It has several useful features with advertising at the bottom that is so unobtrusive that you may not even notice it at first. <http://www.worldweathermeteo.com/WWMSat.html>

23. 5-8 NASA Educational Materials

The NASA Website has a wealth o f GRADES 5-8 educational materials for FREE! Go to this site and take a look http://www.nasa.gov/audience/foreducators/5-8/internet/sites_archive_1.html

24. 5-12 Mosquito Duet Leads to Love!

Read and listen to this NPR resource tidbit on mosquito behavior. Something to spark your students' interest in natural selection! Note other articles referenced at this site. <http://www.npr.org/templates/story/story.php?storyId=99133147>

GRANTS and LEARNING OPPORTUNITIES

25. K-12: Travel to Costa Rica this summer with the NSTA International Committee

Spend 11 days this July taking part in an experiential course designed to explore the ecosystems, culture, geography and history of Costa Rica. Visit a wide range of special areas and reserves in the Monteverde, Arenal, and southern Caribbean Coast regions of Costa Rica. Interact with a range of Ticos - local naturalists, guides, conservationists, botanical and zoological researchers, agriculturalists, and native residents.

[Save your seat for this trip now!](#)

Travel Dates: **July 1 - 11th, 2009**

Instructors: Betty and John Carvellas

Credits: Earn three graduate credits in AIS 295 or EDCI 200

Website: http://learn.uvm.edu/teachertravel/costa_rica

The Jeanne Fossani Memorial Scholarship is available to Vermont teachers, administrators and principals to help cover the cost of the program. Fifteen scholarships in the amount of \$1,150 will be awarded. Apply before February 9th to ensure you are considered. After this date applications will be reviewed on a rolling basis if there are still spots available in the program.

Questions? Contact the Office of Continuing Education at the University of Vermont at (800) 639-3210 or (802) 656-2085.

UVM Continuing Education 322 South Prospect St. Burlington, VT 05401 learn@uvm.edu

TEACHER RESOURCES

26. 9-12: Girls on Ice 2009 Team

2009 Expedition will take place July 30 to August 9, 2009.

Applications Now Available: <http://girlsonice.org/apply>

Girls on Ice is a unique, FREE, wilderness science education program for high school girls. Each year a team of 9 teenage girls and 3 instructors spend 11 days exploring and learning about mountain glaciers and the alpine landscape through scientific field studies with professional glaciologists, mountaineers, and artists.

For more information, please visit: <http://girlsonice.org>

27. 9-12: Celebrate 'Pi' Day

Heads up that "pi day," March 14th, is rapidly approaching -- a day when many campuses take time out to celebrate one of mathematics' most intriguing and storied numbers. Come join the fun! Share with friends, colleagues and students www.PiAcrossAmerica.org has a wealth of pi information including: pi facts; pi bibliography; pi activities at schools across America; word problems and puzzles; a link to search any number string in the first 200 million digits of pi; and other information to help make you well rounded. It is free.

If you are holding a pi celebration, let us know what you are doing and we just might send you one of our incredibly cool "pi swatters."

Yours in-the-round truly, Pi Pilot www.PiAcrossAmerica.org

28. 9-12: NASA Students is now on Facebook

Search for NASA Students at: <http://www.nasa.gov> or visit:

<http://www.facebook.com/home.php?#/group.php?!gid=34760681199>

NASA has a Facebook page designed for students in grades 9-12 and higher education. The page is updated daily, excluding weekends and holidays. It features information for students regarding competitions, feature articles, podcasts, videos and more. Information is also posted to update students on opportunities that have an upcoming deadline, when the space shuttle is preparing for a launch or a landing, and other significant NASA events. Facebook members can join.

CALENDAR: UPCOMING EVENTS/OPPORTUNITIES/DEADLINES

2009

2009: The Year of Science

<http://www.yearofscience2009.org>

February 15-21: National Engineers Week <http://www.eweek.org/Home.aspx>

March 13: Deadline for the Igniting Creative Energy competition <http://www.ignitingcreativeenergy.org>

March 13, 2009 Earth Day T-Shirt Design Contest <http://www.eeweek.org/>

March 15: Deadline to submit "Green Solutions" in Siemens Sustainability Challenge (gr 6-8) <http://www.wecanchange.com>

May 1, 2009: Deadline for HIGH SCHOOL Presidential Awards Program applications. <http://www.paemst.org/controllers/app.cfc?method=view>

March 1: Write On! Wetlands Challenge http://www.wetland.org/education_writeon.htm

March 15: Deadline to submit "Green Solutions" in Siemens Sustainability Challenge (gr 6-8) <http://wecanchange.com/>

March 30: *Engineering is Elementary* Administrator/Curriculum Coordinator session kathv.renfrew@state.vt.us

April 1: Deadline for PAEMST Nominations <http://www.paemst.org>

April 3, April 8, April 14: Spring Math/Science Network Meetings http://education.vermont.gov/new/html/pgm_curriculum/science.html

May 1: PAEMST applications due <http://www.paemst.org>
