



SCIENCE BYTES

APRIL 4, 2008 VOLUME 13

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POLAR-PALOOZA -PASSPORT TO KNOWLEDGE (P2K)

ANCHORAGE MUSEUM,
ALASKA DEPARTMENT OF FISH AND GAME,
IMAGINARIUM SCIENCE DISCOVERY CENTER

Partnership with Alaska Department of Fish and Game's Project Wild Workshops and Wildlife Curriculum and PolarPalooza scientists.

Sunday May 4

Family Day: 1-4 pm. Organized by the Education Department of the Anchorage Museum, P2K, and the Imaginarium, an afternoon of hands-on activities will be provided in conjunction with the Yup'ik Science Exhibition at the Museum and the PolarPalooza experts. The Museum will schedule two Alaska Native tradition bearers to demonstrate technologies key to survival in a polar environment.

Monday: May 5

Tech Check: 10 am – 1 pm

Set up, technology check, in the Museum Auditorium

Stories of a Changing Planet Main Presentation: 7-9 pm.

Tuesday: May 6

Student presentation

10-11 am: Middle School student scaled down media presentation.

Developed and facilitated by P2K, located in the Museum Auditorium

Evening for Educators Workshops and Presentations

6 pm – 9pm: Workshops for K-12 educators.

A three hour workshop developed and facilitated by P2K, in partnership with Alaska Department of Fish and Game. It is anticipated that this workshop will include a minimum of 25 educators including refreshments and coffee.

For educators interested in Continuing Education Credit, these three events need to be attended:

1. Stories from a Changing Planet main presentation, May 5, Museum Auditorium.
2. Evening for Educators May 6, Museum art activity room.
3. Project Wild Workshops and Wildlife Curriculum May 10th. This Saturday class is offered to teachers through the University of Alaska and is offered in Partnership with Alaska Department of Fish and Game's Project Wild.

Saturday: May 10, 9am-5pm

For educators electing University credit, this day is a continuation of UAA Continuing Education Credit Course offered by the Alaska Department of Fish and Game and will be held at the museum in the art activity room.

For more information, teachers should contact Jody Jenkins at the Anchorage Museum: 343-6187,

jenkinsj@ci.anchorage.ak.us

FLINN Science Activities

Use these two free activities from Flinn to help your students understand life science and physical science concepts.

The life science lab idea for March entitled “Two Heads Are Better Than One” will give your students the opportunity to monitor the amazing regenerative abilities exhibited by Planarian flatworms. By using the suggested cutting patterns and separating the cut pieces your students will be able to observe and compare the growth changes and the rates of regeneration.

When introducing this month's physical science activity, “Land versus Water,” use the inviting image of a beach—warm sand and cool water—to help your students relate to the concept of specific heat. We describe how to set up a “mini beach” using a heat lamp and dishes of water and soil (or sand) so students can measure and record temperature changes in each sample. This activity will get your students thinking about specific heat and why various substances have different specific heat values.

Your support—the orders you place with Flinn Scientific—help to make these free lab ideas possible. Thank you for your business! You'll find two more new lab ideas in your inbox next month.

To print "Two Heads Are Better Than One" and "Land versus Water" please go to:
http://www.flinnsci.com/Sections/MS/Activities/MS_act.asp

Workshops offered by Dolan DNA Learning Center

The Dolan DNA Learning Center (DNALC) is a pioneer in modern biology education. Since its founding in 1988, more than 8,000 teaching faculty have received intensive training at DNALC-sponsored workshops conducted in 42 states and several foreign countries. For 2008, we are offering a series of exciting opportunities covering cancer, neuroscience, RNA interference, molecular biology, bioinformatics and genomics. For applications and additional information, please visit our Educator Training website at:
http://www.dnalc.org/ddnalc/teacher_training/

---for High School Teachers

Inside Cancer

This 1-day workshop introduces an innovative Internet site on cancer biology. Participants are guided through authoritative and engaging multimedia about how knowledge of the cancer cell is changing the battle against cancer. Using Teacher Center, they then build lesson plans and custom multimedia presentations, focusing on syllabus-centered instruction.

April 11, 2008 - Biolink Southwest Regional Meeting, Albuquerque, NM

April 18, 2008 - Temple College, Temple, TX

September 20, 2008 - Stowers Institute for Medical Research, Kansas City, MO

October 15, 2008 - NABT Professional Development Conference, Memphis, TN

October 18, 2008 - Midland College, Midland, TX

November 2, 2008 - Fred Hutchinson Cancer Research Center, Seattle, WA

Amgen Leadership Symposium In Human and Genomic Biology

July 14-August 1, 2008 Cold Spring Harbor, New York

This 3-week workshop offers advanced training for high school teachers who want to extend their leadership in biotechnology and genetics education. Instruction takes place at the DNALC, and participants are housed on the nearby campus of Cold Spring Harbor Laboratory on Long Island. Spend your days engaged in exciting labora-

tories, seminars, bioinformatics, and creative projects. In the evenings, mingle with research staff, Nobel laureates, and visiting scientists from around the world who are creating the gene age.

.... for High School and College Educators **Dynamic Gene Workshop in Gene Annotation**

This 1.5-day workshop offers deep insights into gene structure and function. High school and college educators examine newly sequenced regions of the rice genome to "second guess" gene models that have been predicted by computers, but not yet closely examined by scientists.

March 25-26, 2008, Biogen Community Laboratory, Cambridge, Massachusetts

May 8-9, 2008, Harlem DNA Lab, East Harlem, New York

Plant Molecular Genetics and Genomics FOLLOW-UP WORKSHOP

Florida A&M University, Tallahassee, Florida

NEW WORKSHOP DATE: March 21-22, 2008

Friday 9:00 am - 5:00 pm and Saturday 9:00 am - 12:00 noon

We are offering a 1.5-day, follow-up workshop and equipment footlocker training session at Florida A&M University in Tallahassee, Florida. Teachers who wish to participate in the equipment loan program are required to attend this short training workshop to be familiarized with the equipment sets, which include PCR-machine, centrifuge, pipets, gels, UV lightbox, and camera.

In addition to equipment training, participants will conduct a Genetically Modified Organisms (GMO) laboratory and associated bioinformatics exercises, and utilize the DNALC's Internet site Dynamic Gene. Upon completion, participants can borrow the equipment footlockers from FAMU for use at their institution.

The workshop is open to previous participants in the Plant Molecular Genetics and Genomics workshops and to educators near Tallahassee, FL, Holly Springs, MS, Greensboro, NC, and Weslaco, TX. If you have colleagues in these areas who may be interested in this loan program please encourage them to apply.

... for College Educators **Silencing Genomes**

This 5-day workshop on RNA interference (RNAi) brings college educators up-to-the-minute with this revolutionary discovery. In labs and computer work, participants learn all the steps needed to go from genomic sequence information to induce RNAi to silence individual

genes in the roundworm *C. elegans*. This workshop provides great individual labs and templates for independent student projects.

April 21-25 - Dolan DNA Learning Center, Cold Spring Harbor Laboratory,

Cold Spring Harbor, NY June 2-6, 2008 - Rust College, Holly Springs, MS

August 4-8, 2008 - Fralin Biotechnology Center, Virginia Tech, Blacksburg, VA

August 18-22, 2008 - Biolink Texas (Austin Community College), Austin, TX

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Nanoscale Science & Technology

If you're interested in learning more about the fascinating worlds of nanoscale science and technology, please consider applying to either of two Research Experience for Teachers programs this summer at the UW.

1) Through the Center for Nanotechnology (CNT; <http://www.nano.washington.edu/index.asp>) - please use the online application at http://www.nano.washington.edu/about/press_releases.asp#59

2) Through the Genetically Engineered Materials Science and Engineering Center (GEMSEC; <http://depts.washington.edu/gemsec/>) - the attached flyer provides provides some additional information.

Please use the online application at <http://depts.washington.edu/gemsec/education/RET.html> Please share this information with friends and colleagues who may be interested. for any questions about either of these programs, please contact:

Ethan Allen, Manager, Education and Outreach
206-616-9760 ethana@u.washington.edu

Alaska Agriculture Day

It is the first Tuesday in May each year, according to HB 132 signed into law last May). Again this year, Alaska Agriculture in the Classroom, a project of the Alaska Farm Bureau, is promoting and sponsoring an Alaska Ag Literacy project to mark Alaska Ag Day. We are encouraging each teacher to bring agriculture into the classroom that day.

What is agricultural literacy? It's simply making sure your students understand the true source of their food, flowers and many fabrics isn't a local store, but a farm, ranch or greenhouse.

Alaska AITC will be arranging volunteer readers to come into classrooms that day or any time. If you'd like a reader, please contact me. Or you are encouraged to arrange your own activities instead and/or to supplement a reader. I will do whatever I can to help you with that, and I hope that in return you will report your activities to me so I can keep track of involvement in Alaska Ag Day 2008.

We've had great activities for the past three years and hope for more participating schools and classrooms this year. If you need some ideas, please visit the Alaska AITC website at <http://www.agclassroom.org/ak>.

Other state AITC programs have some great activities and lesson plans. Go to any state's website by changing the postal abbreviation from ak to the appropriate state. Some of the best sites for ideas include Utah (UT), Illinois (IL), Arizona (AZ), Oklahoma (OK) and Louisiana (LA). Also, use the Resource Directory on the national AITC website

<http://www.agclassroom.org> to find specific lessons by subject and grade.

It's easy and fun to add agriculture to any area of study at any grade level from math to science to art. Alaska AITC can also help you find agricultural field trip and speaker contacts.

If you don't have an Alaska AITC K-12 lesson plan and activity CD, fill out the online request for on the Alaska AITC website or reply to me here. There is also a new CD that compiles some of the best quick and fun lessons from other state AITC programs.

Let's make Alaska Ag Day 2008 the best ever.

We just got funding to do two Ag in the Classroom Educator Institutes this summer -- one in Palmer and one in the Fairbanks area. Stay tuned for dates, and e-mail me any time if you are interested in being notified with details.

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The Art & Heart of Teaching: Managing a Middle School Classroom?

Middle School Mosaic - ASD Summer Academy
Debbie Silver from the National Middle School Association is coming back for a return visit to the Summer Academy on May 28-29. The class is brand new. Our course maximum is fifty. Twenty-eight people have signed up so far. Stipends are available to cover the cost of the 1-credit registration. MLP registration closes April 27.

Contact Amy Goodman, MS Literacy Support Teacher
<http://www.asdk12.org/middlelink>

Make and Take - Eclipse 2008

Dear Heliophysics E/PO Community,

Hi, I'm the Outreach Coordinator working with Dr. Isabel Hawkins, and we are working to fill out and reorganize the "Make and Take" section of the "Public Outreach" page in the Sun Earth Day website. We're doing this in support of the Eclipse 2008 event, and to provide mission-developed activities maximum dissemination and visibility. We need your help!

We are asking you to send me your favorite and most successful informal education activities that you have developed, or general education activities that can be adapted for public programs at museums & science centers. We are looking especially for anything that has a "make and take" quality to it. "Make and Take" activities are simple, hands-on, crafty with easily accessible materials, inexpensive to prepare, and either a demonstration or resulting in a tangible product that can be taken home.

Examples are at <http://sunearthday.nasa.gov/2008/getinvolved/maketake.php>, where we have also posted activities that are more demonstrative in nature (but note how easily they can be adapted to be "make & take" as well).

I will take any format (Word, PDF, online, jpgs, etc.) in either English or Spanish and adapt them to the template being used on the website now. So you can send them to me no matter what it looks like now! We will give you credit in the template, and you can have several links in the "Related Websites" section.

Our timeline is to collect as many pre-existing activities as possible, format them to the template, make them 508 compliant, and have it live on the website by May 30th. So I am asking that we receive activities from you as soon as possible. Again, any and all formats will be fine, so all you have to do is reply to this email and attach files. Easy!

Thanks so much for your time and efforts in this. We hope to have a wonderful buffet of activities to offer the many museums and science centers by Eclipse 2008.

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2008 Young Scientist Challenge

Discovery Education and 3M are proud to partner with NASA for the 2008 Young Scientist Challenge. Currently in its 10th year, the YSC encourages the exploration of science among America's youth and promotes the importance of science communication at a critical age when interest in science begins to decline.

The challenge sponsors are looking for a few great students and teachers who can inspire others with their enthusiasm for science and their ability to communicate. What does it take to be America's Top Young Scientist or America's Top Science Teacher? Students in grades 5-8 and teachers of grades K-12 are being asked to create a short (1-2 minute) video about one of this year's scientific topics, which all relate to this year's theme, "The Science of Space." Participants should enter their videos online and will become eligible to win a trip to Washington, D.C., in the fall to compete in the YSC finals at NASA's Goddard Space Flight Center.

Science teachers who are interested in participating must be members of the Discovery Educator Network. Becoming a member is easy and registration is free. To become a member, visit http://community.discoveryeducation.com/about/become_discovery_educator.

Video topics and registration information can be found online at <http://www.discoveryeducation.com/youngscientist>.

Videos will be accepted through June 15, 2008. Finalists will be announced this summer, and the competition finals will take place Oct. 4-7, 2008.

For more information, log-on to <http://www.discoveryeducation.com/youngscientist>.

Questions about the competition may be sent to YSC@discovery.com.