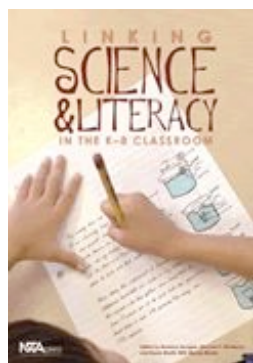


# Secondary Science Bytes

*A newsletter for secondary teachers of science*

February 28, 2007



Starting on Thursday, and throughout March, NSTA members can order NSTA Press's *Linking Science and Literacy* at 30% off the regular retail price. For those of you who have been using science notebooks, or have been thinking about using science notebooks, this is a terrific resource! To browse the book and to order, go to

<http://www.nsta.org/onlinespecial2>.

Note: even though the description says this book is targeted to teachers through grade 8, I believe teachers through grade 12 will find useful information - Robby

**Alaska State Science & Engineering Fair - coming soon!**

**2007: Bond with Science!**

**March 9, 10 & 11 @ East High**

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

**Please consider volunteering** - see the website for **Volunteer Training dates and times**. If you cannot come to a training but would still like to help please contact Robby Bear.

### **Needed:**

**Safety Inspectors** (Friday evening 5-9 pm)

If you plan to help with safety inspections, but took the training last year, please email Robby.

**Elem. & Secondary Judges** (Saturday)

**Online registration is now active!**

<http://www.alaskasciencefair.org/Registration/PreregistrationInfoPage.htm>

**PLT is expanding its Green-Works! service-learning program!**

This year, \$100,000 will be awarded to schools and youth organizations for environmental neighborhood improvement projects that involve youth with their community.

Since 1993, Project Learning Tree has distributed approximately \$375,000 to fund 750 grant projects in communities across the country. In 2007, PLT is making \$100,000 available for "learning-by-doing" environmental projects that:

partner PLT educators and their students with local businesses or community organizations  
combine academics with community service  
engage elementary through college-age students in active learning about the environment  
provide opportunities for student leadership.  
Grants up to \$5,000 are available. This amount will be awarded to a select number of proposals of greater scope and reach. These projects are allowed to take up to two years to implement and must also incorporate a PLT professional develop-

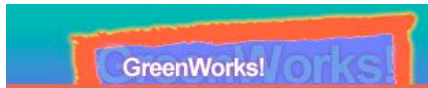
ment training workshop for other educators or youth leaders. Most projects will be funded at \$1,000 or below and must be completed within twelve months.

PLT will sponsor two rounds of *GreenWorks!* grants. The first deadline for applications is April 30, 2007. There will be a second funding cycle in the Fall. That deadline is October 31, 2007.

Sample projects include, but are not limited to, outdoor classrooms and gardens, habitat restoration, watershed improvement, energy conservation.

For more information, read the attached press release and visit [http://www.plt.org/cms/pages/21\\_22\\_18.html](http://www.plt.org/cms/pages/21_22_18.html) for grant guidelines, and an application.

*College Gate librarian, Donna Helmer, received a Greenworks grant this year for a reading and reflection garden next to the school.*



## **Position open for a Biological Aid summer internship for APHIS**

**Applications close March 6th**

Agriculture, Animal & Plant Health Inspection Service located in the seed lab at the Alaska Plant Materials Center in Palmer. Applicants must be college students or high school graduates accepted by an accredited college or university and are returning to classes in the fall of 2007. The position announcement can be found on the federal jobs website at:

<http://jobsearch.usajobs.opm.gov/getjob.asp?JobID=52196527&brd=3876&AVSDM=2007%2D01%2D09+00%3A01%3A02&q=Biological+Aid&sort=rv&vw=d&Logo=0&FedPub=Y&lid=316&FedEmp=N&SUBMIT1.x=91&SUBMIT1.y=11&ss=0&SUBMIT1=Search+for+Jobs&TabNum=1&rc=3>



## **From the Exploratorium**

<http://www.exploratorium.edu/index.html>

### **LITTLE CONVERSATIONS ABOUT NANOTECHNOLOGY**

<http://www.nisenet.org/podcasts>

Your students are plugged into their iPods. Why not plug them into the Exploratorium at the same time? (Remember, you don't need an iPod to listen to a podcast. A computer connected to the Internet or any MP3 player will work.) We have a new podcast series on nanotechnology - called SmallTalk - available for your listening. It's geared to anyone interested in science, including you and your students. We think nanotechnology could dramatically change our world through revolutions in electronics, medicine, energy, and materials. In this podcast series, we explore this new science and what it could mean to all of us. Each month we chat with leading scientists, thinkers, artists, writers, and visionaries, and look at quirky nanoscience stories in the news.

SmallTalk is hosted by the Exploratorium Teacher Institute's Stephanie Chasteen, in collaboration with science writer Karen Schmidt. E-mail [smalltalk@exploratorium.edu](mailto:smalltalk@exploratorium.edu) with comments or questions. Visit <http://www.nisenet.org/podcasts> to subscribe to future podcasts.

### **GLOBAL CLIMATE CHANGE**

<http://www.exploratorium.edu/climate/about.html>

Global warming has been headline news for some time. In this Web site, you'll find a general discussion of the physical processes underlying the earth's climate, an outline of the kinds of data that may shed light on how the climate is changing - and the role of human activity in these changes - and a description of some of the questions and uncertainties that researchers continue to explore. This primer is organized into four interconnected sections: the Atmosphere; the Hydrosphere (the earth's oceans and water); the Cryosphere (the areas of the planet covered by snow and ice); and the Biosphere (the living organisms inhabiting all these domains). The Web site draws on live data sets from researchers around the world.

## Speaking of Global Climate Change...

A colleague recently shared the following short video with me (thanks Scott!)

<http://video.google.com/videoplay?docid=8453442377878175440&q=global+warming>

## Science Education in the News

Capping two years of bitter controversy and occasional ridicule, the Kansas Board of Education on Tuesday rescinded science curriculum standards that cast doubt on evolution. In their place are new guidelines reflecting the scientific consensus that evolution is a foundation of modern biology and a critical component to a science education. It's the fourth time the board has changed the standards in eight years. However, the vote isn't likely to end the enduring fight over what to teach public school students about the origins of life. "This issue is never going to go away," says John Calvert, director of the Intelligent Design Network. "You can't keep science in a box." The standards are the basis for state assessment tests. Local districts are not required to teach the standards but often use them as templates for course curriculum. The repeal of the standards hands another defeat to proponents of creationism and intelligent design, the belief that nature shows scientific evidence of a creator. Two years ago, a U.S. District judge ruled that intelligent design cannot be taught in public schools. In Georgia, another judge ruled that a local school district couldn't put stickers critical of evolution on biology books. Kansas City Star By David Klepper Full story at:

<http://www.kansascity.com/mlD/kansascity/16692489.htm>

## Absolute Zero and the Conquest of Cold

*Absolute Zero*, a two-part PBS television special scheduled to air later this year, will demonstrate how civilization has been profoundly affected by the mastery of cold. Based largely on Tom Shachtman's acclaimed book, *Absolute Zero and the Conquest of Cold*, the documentaries will explore key concepts, significant individuals and events in the field of low-temperature physics, and the enormous impact that the mastery of cold has had on society through such technologies as air conditioning, refrigeration and liquefied gases.

On Thursday, March 22, from 6:30 to 8:00 p.m. eastern standard time, NSTA, in collaboration with the National Institute of Standards and Technology (NIST), will host a one-of-a-kind, interactive *Absolute Zero* web seminar,

free to anyone who would like to attend. Join Nobel Laureate Dr. Bill Phillips, a leading researcher in the physics of ultra-low temperature atomic gases, as he explains how and why he and his colleagues made the coldest gases ever seen. Phillips will provide engaging ideas on how to make the physics of the ultra-cold appealing to middle and high school students, and suggest low-temperature demonstrations. The web seminar is designed primarily for grades 5-12.

For more information about the *Absolute Zero* web seminar and to register, log on to:

<http://institute.nsta.org/AbsoluteZero/zero.asp>.

For more information about the *Absolute Zero* campaign, please visit <http://www.absolutezerocampaign.org>.

## Today in Science History

<http://www.todayinisci.com/>

### Alice Hamilton



Born 27 Feb 1869; died 22 Sep 1970.

American pathologist, known for her research on industrial diseases. By actively publicizing the danger to workers' health of industrial toxic substances, she contributed to the passage of workmen's compensation laws and to the development of safer working conditions. In 1911, she accepted an appointment as special investigator for the U.S. Bureau of Labor. These duties led her into field investigations of mines, mills, and smelters. Concentrating at first on lead, the most widely used industrial poison, she compiled statistics dramatically documenting the high mortality and morbidity rates of workers. She later did the same for aniline dyes, picric acid, arsenic, carbon monoxide, and many other industrial poisons. Hamilton died when 101

years old. She was a pioneer in the field of industrial hygiene and public health. Her work led to the passage of laws that improved the safety of the workplace and the health of workers. She was also a strong advocate for the rights of women in the workforce.



### Ivan Petrovich Pavlov

Died 27 Feb 1936 (born 14 Sep 1849)

Russian physiologist known chiefly for his development of the concept of the conditioned reflex. In a now-classic experiment, he trained a hungry dog to salivate at the sound of a bell, which was previously associated with the sight of food. He received the 1904 Nobel Prize in Physiology or Medicine.

He was a pioneer in the field of experimental psychology and physiology. His work on the conditioned reflex is one of the most important contributions to the understanding of learning and behavior. He was also a strong advocate for the rights of women in the workforce.