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Iowa Academy of Science

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Iowa Science Teaching Section

Iowa Academy of Science

February 15, 2010

Nadine Weirather, Editor

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Calling Presenters!

Why not register right away to be a presenter at next year's ISTS Fall Conference?

Perhaps you've been thinking of a topic. Instead of forgetting about it, go ahead and sign up now. Have it out of the way! Whether you are presenting alone or with a partner, don't wait...

The ISTS Fall Conference will be in Des Moines on October 7-9, 2010!

Proposal deadline: June 4, 2010.

Find the proposal form at <http://ists.pls.uni.edu/forms/all-conf/present/>

A Message From the ISTS Chair, De Anna Tibben:

Greetings to you on this chilly February day!

I am saying “uncle” to this winter! Possibly you are, too! One way to warm up is to think about spring and all the outdoor opportunities you’ll take. This year the 122nd Annual Meeting of the Iowa Academy of Science will be at Graceland University, Lamoni, on April 16th and 17th. The advance program is available at www.iacad.org/. As members of the largest section of IAS, you are encouraged to attend day and evening sessions on Friday, and the day events on Saturday. The general sessions and symposia content are right up a teacher’s alley! Be sure to check out the details at www.iacad.org/.

On Saturday, April 17th, the ISTS section meeting will begin with oral presentations at 9:20 and 9:40am and meeting at 10am. At this meeting, I will be stepping down as Chair and passing the duties on to Kathy Megivern.

As a past participant, I highly recommend you attend the Saturday field trips. You’ll be able to interact with the scientists, brush up on some content knowledge, gain some resources/information for lesson development, and most importantly, be able to enjoy Iowa Outdoors in Spring!!!!

Calling all biology, environmental, & ecology teachers! Grab your cameras for the *Early Bird Prairie Chicken Excursion*. This early morning adventure will be your opportunity to travel with Gregg Pattison, Private Lands Biologist, US Fish and Wildlife Service to the habitat of the Greater Prairie Chicken and perhaps witness male birds booming. Visit www.iowadnr.gov/wildlife/diversity/pchicken.html for more information about Iowa’s Great Prairie Chickens.

The Geological Society of Iowa’s Annual Spring Field Trip will also be on Saturday, April 17th. Opportunities will abound for photo ops with Pennsylvanian and Pleistocene strata exposed in Decatur County. Don’t take this carpooling excursion for “granite”!! For more information on the Geological Society of Iowa, or to become a member, visit www.iowageology.org/.

Planning a restoration project in your District? Developing/expanding an Environmental Science curriculum? The Natural History Field Trip to Slip Bluff County Park promises a great experience along the scenic Grand River Valley. Heading out six miles northeast of Lamoni, participants will witness current restoration work and native prairie habitat including early blooming plant species. Rich Erke, Director of the Decatur County Conservation Board, Gregg Pattison, Biologist with the US Fish and Wildlife Service, and members of the Southern Iowa Oak Savanna Alliance will lead this 2 hour interactive trip. You may sign up

for this at the registration desk, and transportation is available. For a brief history of Slip Bluff County Park visit www.epa.gov/nps/success/state/ia_slip.htm and www.nature.org/wherewework/northamerica/states/iowa/press/press3292.html for the Southern Iowa Oak Savanna Alliance.

Visit www.iacad.org/ for registration details for the IAS Annual meeting, including the section meeting and field trips.

Take care, and I'll see YOU in Lamon!
-De Anna Tibben, Chair

From the Past Fall Conference Chair, Morgan Masters:

Wow.... The 2009 Fall Conference is in the past and we are already looking forward to a fantastic conference in Ames this coming October (Only 8 months away).

Now is the time to be thinking about putting together a proposal to present at this coming Iowa Science Teaching Section Fall Conference. Consider sharing your favorite science activity, lesson or teaching strategy. You might consider presenting with a colleague. The experience is very rewarding and you are able to make connections with science colleagues that will last well into the future.

It is the sharing of ideas and experiences that helps science education move forward in Iowa. Get involved and plan to present at this coming ISTS Fall Conference. Here is the website for the Iowa Science Teachers Fall Conference presentation proposal form and conference information:

<http://ists.pls.uni.edu/fall-conference/index.html>.

Morgan Masters – Past ISTS Chair and Conference Chair

Message from your Vice Chair, Kathy Megivern:

I continue to be amazed at the accomplishments of the Fall Conference committee. How can the next conference follow in the shoes of the very inspiring conference in 2009? Somehow, it looks very promising, thanks to many great minds working together. (Who knows? Maybe this incredible winter is great for thinking great thoughts and looking ahead!) Our 2010 Conference will have a new location and some very new and exciting features, including field trips! Early presentation applications include some novel topics, there will be great workshops, and ... and I'll

save other exciting prospects for surprises later! Be sure to reserve October 7-9!

Your ISTS Vice Chair, Kathy Megivern

Announcements

• National Lab Day

Join educators nationwide in an exciting new initiative called **National Lab Day**. President Obama announced National Lab Day as part of the Administration's Educate to Innovate campaign. [National Lab Day](#) is more than just a day. It's a nationwide movement to bring together stakeholders in communities of support where science, technology, engineering, and math (STEM) professionals and teachers work together to provide high-quality, hands-on, discovery-based lab experiences for students.

National Lab Day (NLD) projects will be teacher driven. You can partner with outside experts to work to assess current labs, update or refurbish lab equipment, conduct equipment and materials inventory, or clean and repair equipment. Or you can elect to have STEM professionals work with you to

- implement hands-on projects,
- start a fund-raising effort to buy needed supplies,
- help with science fairs,
- mentor a student,
- coordinate and host field trips,
- provide internship opportunities,
- donate materials, and
- assist with lesson plans.

Projects can also center on computer or outdoor labs—anywhere where hands-on lessons in the STEM subjects can come alive. These are just a few of the suggestions, and many more can be found at www.nationallabday.org

More than 6.5 million professionals from 200 science, technology, engineering, and mathematics (STEM) organizations are being asked to join NLD, which is tentatively set for May 2010. We envision NLD as the first step in an ongoing involvement between STEM professionals and local schools

and teachers nationwide.

We as science educators are experiencing a rejuvenated focus on the importance of science education. It seems we have a window of opportunity to get involved in engaging the community and experts. This can benefit you directly through a self-selected project, but it also can assist more broadly by helping more people realize the quality of the science education you provide to students and identifying the needs that exist in classrooms across the country.

Visit the National Lab Day website at www.nationallabday.org to join us in this new initiative as one step to bringing science education to the center of attention in the community.

• Winter Olympics

FROM *NSTA Express* 2/8/10

NBC Learn, the educational arm of NBC News, has teamed up with the National Science Foundation (NSF) to produce [Science of the Olympic Winter Games](#), a 16-part video series that explores the science behind individual Olympic events, including Downhill and Aerial Skiing, Speed Skating and Figure Skating, Curling and Hockey, and Ski Jumping, Bobsledding and Snowboarding.

This project between the NSF and NBC Learn uses the global spotlight of the Olympics to make science more accessible and more interesting to students by showing how science helps athletes fulfill the Olympic motto: *Citius, Altius, Fortius*—Swifter, Higher, Stronger.

[Visit the "Science of the Olympic Winter Games" website](#)

[Download Olympics lesson plans](#)

[Read the *District Administration* article "Science from Vancouver to the Classroom" by KeriLee Horan](#)

Opportunities

• HS Modeling Workshops

Feb. 12, 2010

Modeling Workshops in high school physics, chemistry, and physical science will be held in summer 2010 in many states, including ours. Visit

<http://modeling.asu.edu> for details. Click on "Modeling Workshops Nationwide in Summer 2010".

http://modeling.asu.edu/MW_nation.html

Modeling Workshops are peer-led. Modeling Instruction is one of two K-12 science programs designated by the U.S. Department of Education as EXEMPLARY. There are stipends at most sites, usually for in-state teachers. Graduate credit is available at some sites.

- **[NASA/USA Today No Boundaries Competition](#)**

FROM NSTA Express 2/8/10

NASA and *USA Today* partnered to bring the No Boundaries science, technology, engineering, and mathematics (STEM) career curriculum and competition to middle and high school classrooms.

No Boundaries is a free, eight-week, cross-curricular project that introduces 7th to 12th grade students to NASA careers in STEM through a cooperative learning experience.

Students collaborate to gather web-based research on the variety of career options available with NASA. Students then develop a fun and creative way to present the opportunities to other students. Cash prizes will be awarded (up to \$2,000) in addition to a "VIP NASA experience."

More information and all project resources are available at the [No Boundaries website](#).

- **[Journey North](#)**

FROM NSTA Express 2/1/10

Though it's February, you and your students should be on the lookout for any signs of spring. These signs can be observed through monitoring the northern migration of monarch butterflies, hummingbirds, whooping cranes, and other animals. [Journey North](http://www.learner.org/jnorth/season) (<http://www.learner.org/jnorth/season>), a free web-based program, allows students to explore wildlife migration, the blooming of plants, and seasonal changes in temperature and sunlight. K-12 teachers and students worldwide are invited to participate and take advantage of lessons, photos, video clips, interactive maps, and migration "stories," among other resources.

- **[2010 Summer Biotech Workshop](#)**

The 2010 summer workshops offered by the Office of Biotechnology at Iowa State University are designed especially for educators in public or private schools

or those who work with youth in 4-H or other community programs. Educators are invited to attend one or more of the workshops and earn professional development or graduate credits.

The workshops will be held in the Biotechnology Outreach Education Center (BOEC), 1320 Molecular Biology Building, on the Iowa State campus in Ames. A \$50 per day stipend is available to help Iowa teachers cover their costs of attending. ISU Extension educators or personnel can receive travel reimbursements of up to \$50 per day to help cover their expenses.

Iowa teachers who complete any of the workshops are eligible to receive free supplies for specific lab protocols from the Office of Biotechnology.

For More Information or to Register

For more information about the biotechnology education workshops, contact Mike Zeller or Lori Miller toll-free in Iowa at (800) 643-9504, or e-mail mzeller@iastate.edu or lorimill@iastate.edu. For more information about the bioethics workshop, please contact Clark Wolf at (515) 294-3068 or e-mail jwcwolf@iastate.edu or to register, go to www.biotech.iastate.edu/publications/ed_resources/Workshops.html.

Registration Deadline

The registration deadline for the workshops is **May 28, 2010**.

- **[Kohl's Scholarships](#)**

[Kohl's Corporation: Kohl's Kids Who Care Scholarships](#)

The Kohl's Kids Who Care Program recognizes and rewards young volunteers who transform their communities for the better. Maximum award: \$10,000 scholarship toward post-secondary education. Eligibility: youth 6 to 18 years old, not graduated from high school by March 15, 2010. Deadline: March 15, 2010. <http://www.kohlscorporation.com/CommunityRelations/scholarship/index.asp>

- **[Vernier Hands-On Workshops](#)**

Join us for one of **our free, 4-hour**, hands-on workshops to learn how to integrate our computer and handheld data-collection technology into your chemistry, biology, physics, middle school science, physical science, and Earth science curriculum. The workshops include lunch or dinner and lab handouts. Please visit <http://www.vernier.com/workshop/> to find out more.

- **Projects WILD/WILD Aquatic/Learning Tree**

Online Workshop

1 license renewal credit and/or 1 graduate credit

Course Dates: 3/8/2010-5/3/2010 **Registration Deadline:** 3/2/2010

Educators will use course materials and resources to help integrate Iowa! environment/nature into their classroom. Course readings, assignments and guest speakers encourage participants to share their ideas and experiences with peers. Assignments will help educators correlate environment/nature activities to district standards and benchmarks while meeting the essential concepts and skills as outlined by the Iowa Core Curriculum, Characteristics of Effective Instruction and Every Learner Inquires. Participants are required to spend 2 hours per week on-line completing assignments.

Cost: \$50 includes materials and 1 license renewal credit
Drake Graduate Credit - additional \$100

Online Registration Only: Go to the Heartland AEA 11 website – www.aea11.k12.ia.us. Click on “Professional Development Catalog” on the left-hand menu, under “Quick Links Area.” Scroll down to the middle of the “Professional Development Catalog” page to “OR... Enter Activity an Activity Number.” Type **SC006099991002** in the box.

- **Fishing and Archery Course**

Teaching Outdoor Skills: Basic Fishing and Archery

1 license renewal credit and/or 1 graduate credit

Course Dates: June 14 & 15, 2010 **Registration Deadline:** June 7, 2010

Hands-on sessions will acquaint participants with methodologies used to teach archery and fishing. Participants will receive a basic archery instructor packet and the *Fish Iowa!* basic spincasting module.

Lodging and meals will be provided at the Springbrook Conservation Center for June 14, 2010. Costs are included in the registration fee or covered by the Iowa Department of Natural Resources.

A limited number of stipends of \$150 are available to teachers to help defray expenses of attending the course. To be eligible for the stipend the participant must develop an integrated unit lesson plan using the *Fish Iowa!* materials that meets the criteria to receive an “A” in the course.

Cost: \$55 includes materials and 1 license renewal credit
Drake Graduate Credit - additional \$100

Online Registration Only: Go to the Heartland AEA 11 website – www.aea11.k12.ia.us. Click on “Professional Development Catalog” on the left-hand menu, under “Quick Links Area.” Scroll down to the middle of the “Professional Development Catalog” page to “OR... Enter Activity an Activity Number.” Type **HL002199991101** in the box.

- **Exploring the Past: Archeology in the Upper Mississippi River Valley**

Walking beside thousand-year-old burial mounds, flaking raw stone into tools, learning how potsherds tell us about human behavior, and understanding how humans adapt to complex, ever-changing environments#bur 2010 Summer Institute features all this and more.

The Mississippi Valley Archaeology Center at the University of Wisconsin–La Crosse will offer a three-week NEH Summer Institute on July 12–30, 2010. This dynamic learning experience for K-12 teachers will explore how Native Americans and Euro-Americans have adapted to the Upper Mississippi River Valley over the past 13,500 years, and how archaeology leads to an understanding of how human cultures change and adapt through time.

The Institute will feature a one-day excavation experience, field trips to archaeological sites, hands-on laboratory and workshop activities, demonstrations, and classroom activities. Individual projects will help participants tailor the content to their own teaching areas. Participants receive a \$2,700 stipend to help offset their expenses.

Application and other information on the Institute is available online at <http://www.uwlax.edu/mvac/neh.htm>. The deadline for applications is March 2, 2010.

- **Realize Science Technology Grant Doubled**

SILICON VALLEY, CA-The Realize Science Technology Grant program, launched in Spring 2009, has been doubled for 2010. The grant will now award \$20,000 worth of cutting edge science education equipment and curriculum tools to teachers across the country.

Those awarded the grant will receive new hand-held video microscopes with software to take still pictures, video, time lapse movies, etc., and accompanying curriculum books with lessons designed to meet both state and national science standards.

The grant is sponsored by private educational groups: STR - School Technology Resources (www.schooltr.com) and Real Curriculum (www.scopecurriculum.com).

STR is looking for creative, innovative and educationally valuable uses of hand-held video microscopes in this competitive grant based on the quality and value of the submissions.

Applications will be available online at http://www.schooltr.com/Teacher_Resources/realize_science_grant.html in February. The deadline for applications is March 31, 2010. Notification of grant awards will be sent out by April 15, 2010.

• **Earth Science Awards**

The 2010 Thacher awards will be given to secondary school students (grades 9-12) demonstrating the best use of satellites and other geospatial technologies or data to study Earth. Eligible tools and data include satellite remote sensing, aerial photography, geographic information systems (GIS), and Global Positioning System (GPS). The main focus of the project must be on the application of the geospatial tool(s) or data to study a problem related to Earth's environment.

Entry Deadline: April 5, 2010

Eligibility: Any student who is enrolled in and attending secondary school (grades 9-12 - public, private, parochial, Native American reservation, or home school) in the United States or U.S. territories; or any student who is a United States citizen and enrolled in a secondary school (grades 9-12) attending: Department of Defense Dependents' Overseas School or an accredited overseas American or International School; or foreign school as an exchange student; or a foreign school because his/her parent(s) are temporarily working and living abroad.

Major Awards: Three cash awards will be given -- 1st place - \$2,000, 2nd place - \$1,000 and 3rd place - \$500. Cash awards for team entries will be split among the winning team members. In addition to prizes for the winning students, the teachers of the 1st, 2nd, and 3rd place students/teams will receive a \$200 amazon.com gift card. Visit their website for more information www.strategies.org/ThacherContest

• **ISU Professional Development Opportunities**

Iowa State University is offering two professional development opportunities for science teachers:

ACADEMIES CREATING TEACHER SCIENTISTS (ACTS)

A 4-6 week professional development program for 5-12 grade science teachers.
Middle school teachers : June 28 - July 23

High School teachers: June 14 - July 23

Stipends \$800/week plus travel and housing (if required)

Mini-grants and conferences \$4000/year for three years.

For more information:

<http://www.external.ameslab.gov/education/ACTS/progdesc.html>

RESEARCH EXPERIENCES FOR TEACHERS IN MOLECULAR BIOLOGY, BIOTECHNOLOGY AND GENOMICS

A 7 week professional development program for 7-12 grad biology teachers.

June 7-July 23

Stipends \$800/week plus travel and housing (if required)

For more information:

<http://www.eeob.iastate.edu/plantgenomeoutreach/7-12teachers.htm>

• **STORM Project News**

The Science Center for Teaching, Outreach, and Research on Meteorology (the STORM Project) at the University of Northern Iowa (Cedar Falls) will sponsor a short course entitled "Studies in Air Quality for Science Educators" on June 20-25, 2010. This intensive, one-week course is designed specifically for middle school and high school science teachers. Participants will receive a stipend. Expenses, including travel, will be paid by the STORM Project. Out-of-state teachers are encouraged to apply. For more information, see:

<http://www.uni.edu/storm/saqse/>

• **National Conference on Science Education**

It has been mentioned that teachers are the most important factor for student success. The National

Conference on Science Education, March 18-21, Philadelphia, is one event where science educators can gather with renowned experts in every science discipline, in every grade band, and access the best professional development across the nation.

With nearly 2000 sessions to choose from, day-long programs in Chemistry, Biology, Earth Science, and Physical Science, renowned presenters like Bill Nye, and 10,000 other science educators to meet, you'll come away with solid skills, new ideas, and a network of peers who have a passion for science. And we're betting your students will profit from your new experiences.

Visit www.nsta.org for more information or to register.

- **UN-REDD Materials**

FREE CURRICULUM ON EFFORT TO MITIGATE CLIMATE CHANGE:

The future is looking brighter for rainforests. The UN Framework Convention on Climate Change recognized REDD (Reducing Emissions from Deforestation and forest Degradation in Developing countries) in December 2009 in Copenhagen. REDD will compensate tropical countries for protecting their forests. Since 17% of our greenhouse gas emissions come from deforestation in the tropics, successfully implementing REDD will not only save rainforests, but jump-start climate change mitigation. To receive a free REDD multimedia curriculum for grades 9-12, email Bruce at saverfn@cybermesa.com.

An announcement from Save the Rainforest, Inc.
www.saverfn.org.

- **Summer Institute in Physics and Physical Science**

The Center for Physics Education in the University of Washington Physics Department offers a five-week, 10-credit summer institute in physics and physical science for full-time inservice teachers. The 2010 institute is tentatively scheduled for June 28-July 30 at the UW in Seattle. Classes meet from 9 a.m. to 3:45 p.m. Monday-Friday. Directed by Professor Lillian C. McDermott and supported by the National Science Foundation, the institute is tuition-free and a \$1500 stipend is offered on successful completion of the course work. Additional money is available if needed to help defray the cost of lodging for persons from outside the Seattle area.

The *Physics by Inquiry* curriculum used in the course has been especially designed to strengthen the subject matter background of teachers in topics typically covered in precollege physics and physical science using a hands-on, inquiry-oriented method of instruction. The materials emphasize the development of fundamental concepts and reasoning skills through laboratory experience. The class is divided into two sections: one for elementary-middle school teachers with little or no background in physics; the other for high school teachers of physics, physical science, and mathematics.

The application deadline is February 26, 2010.

Additional information is available on our website
<<http://www.phys.washington.edu/groups/peg/si2010.html>>.

• Iowa Outdoor Youth Summit

When: April 10-11*, 2010

April 23-25, 2010: Participants follow-up with initial action steps for their efforts as part of Global Youth Service Day

*April 11 is an optional day for participating in outdoor activities that can be shared with novices back home.

Where: Springbrook Conservation Education Center, north of Guthrie Center, IA

Why: To bring together “teams” of youth and adult mentors from across the state to develop action plans for getting more kids outdoors in their local area.

- develop a comprehensive action plan for getting kids outside
- strengthen relationships between environmental and youth development organizations
- initiate, energize and support collaborative work
-

Who: Teams of 1-2 adult mentors and 3-4 young people (under age 25) who want to do something to get more kids outdoors

Cost: April 10 Working Session -- \$50/team of 4; \$10 for each additional person*

\$15 for individuals (We strongly encourage teams of at least 4 from a location to facilitate partnerships and support for local projects.) +\$15 per person for optional Saturday Dinner/Lodging/Sunday Breakfast for those staying for Sunday activities.

For More Information or Registration Forms:

<http://www.iowadnr.gov/education/coalition.html> Email:

AquaticEd_Info@dnr.iowa.gov

Call: 641-747-2200

Activities

• Using Mnemonics in the Classroom:

Many times in different classes, students must remember the order of events, of places, or of objects. One learning strategy that may also add some fun to the lesson is to use mnemonics. Ever think of having a mnemonic contest? This can be a fun, sometimes silly, but definitely effective, way for students to

remember needed science content. A colleague had a mnemonic contest for his students related to the Geologic Time Scale (Quaternary, Tertiary, Cretaceous, Jurassic, Triassic, Permian, Pennsylvanian, Mississippian, Devonian, Silurian, Ordovician, Cambrian). Here's a 'top 10!' from his competition:

1. Quickly Ten Creatures Jumped Through Playful Pigeons Monitoring Dark Spots On Crows.
2. Pretty Cows Often Sing Dumb Music Praising Purple Trees Jiggling Calmly Though Quickly.
3. Pretty Cats Or Silly Dogs Must Practice Patiently To Juggle Certain Things Quickly.
4. Quietly Talk Cause Juggling Talking Parts Proclaim Monkey Dead Since Orange Carrots Peel.
5. Precious Caring Otters Slide Down Mud Padded Peninsulas Toward Jumping Cooing Trembling Quails.
6. Quietly Tim Crept Jovially Towards Pat's Permanent Mausoleum Down Some Obnoxiously Creepy Path.
7. Quickly The Cat Jumped The Powerful Pup Moving Downstream Slowly On Carl Peterson Creek.
8. Quietly Tiptoeing, Carl's Jumping Toad Proudly Passed Mikey's Dinosaur Sleepily Opening Canned PopCorn. (*includes PreCambrian*)
9. Quadrillions of Terrific Cats Just Tipped Paint Pans and Millions of Dollars Spilled Over Cobras and Phenomenal Canaries.
10. Quick Terriers Can Jump Tall Purple People Moving Down Stream On Canoes Playfully.

If you decide to have a mnemonic contest, or other learning strategy, you may want to share it by presenting at the 2010 ISTS Fall Conference! Yes, plans are well underway for the Oct 7-9 event. Go to ists.pls.uni.edu/ to submit a presentation proposal or for more information.

Have fun!
De Anna Tibben, Chair

News

- **[Iowa DNR Newsletter for Middle Schoolers](#)**

A new seasonal eco-newsletter for middle school students is called "Generation Conservation." This newsletter features information about natural resource and

science careers, eco-conscious tips, and articles about Iowa's natural resources. The goal of this newsletter is to get Iowa's youth interested in conservation and sustainable living practices, and to get them interested in science and natural resource careers.

Currently, the .pdf newsletter is in electronic form, available at <http://www.iowadnr.gov/volunteer/>.

- **AP Exam News**

- **AP no 'silver bullet'**

At a time when the number of students taking Advanced Placement (AP) courses has reached a record high, the percentage that fail the exams, particularly in the South, has also jumped, according to USA TODAY. These findings raise questions about whether schools are pushing millions of students into AP courses without adequate preparation, and whether schools are training teachers to deliver the high-level material. "The standards don't teach themselves," says Linda Darling-Hammond of Stanford University. Advanced Placement is not a "silver bullet" that will boost academic success. "You have to build the whole system," she says. "You can't just bring in one thing and think that it's going to solve everything." Last year, students took 2.9 million exams through the AP program. A score of 3 or higher on the point scale of 1 to 5 can earn students early college credits, depending on a college's criteria. USA TODAY's analysis found that more than 41.5 percent of students earned a failing score of 1 or 2, up from 36.5% in 1999. In the South, a census-defined region that spans Texas to Delaware, nearly half of all tests -- 48.4 percent -- earned a 1 or 2, up 7 percentage points from a decade earlier and a significant difference from the rest of the country.

Read more: http://www.usatoday.com/news/education/2010-02-04-1Aapscores04_ST_N.htm

Related:

<http://www.edweek.org/ew/articles/2010/02/10/22ap.h29.html?tkn=TXBFrvmti5XctKRWW%2F4GDDkZFa3vddWD2PBI&cmp=clp-ecseclips>

- **Teachers May Cause Anxiety**

- **The math anxiety contagion**

First- and second-graders whose female teachers were anxious about mathematics were more likely to believe that boys are hard-wired for math and that girls are better at reading, according to a new study reported in The Los Angeles Times. The study also found that girls who believed this scored

significantly lower on math tests than their peers who didn't. The gap in test scores was not apparent in the fall when kids were first tested, but emerged after spending a school year in the classrooms of teachers with math anxiety.

"Teachers who are anxious about their own math abilities are translating some of that to their kids," said University of Chicago psychologist Sian Beilock, who led the study. Beilock and her colleagues recruited seven female teachers from a Midwestern school district and assessed their level of math anxiety -- a condition in which the prospect of doing math evokes unpleasant physiological and emotional responses. They then tested their students over the course of a year. The study is the first both to examine math attitudes of teachers and to show that those feelings can spread to students and undermine their performance, said co-author Susan C. Levine, also a psychologist at the University of Chicago.

Read more: http://www.latimes.com/news/local/education/la-sci-math26-2010jan26.0.2370924.story?track=rss&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+latimes%2Fnews%2Feducation+%28L.A.+Times+-+Education%29

See the report:

<http://www.pnas.org/content/early/2010/01/14/0910967107.abstract?sid=56985499-db68-4fd0-acb3-912c423bb491>

- **National Standards**

National Standards, take two

Writing groups convened by the Council of Chief State School Officers and the National Governors Association (NGA) are at work on a better-organized and easier-to-understand draft of grade-by-grade common standards, Education Week reports. The revision is in response to feedback that the earlier 200-plus-page version was confusing and insufficiently user-friendly. "Teachers, experts, and states have all said to us, 'Please pay attention to design so that it's clear to the end-user what the standards are.' So we're trying to both get the standards right and prepare a document that teachers around the country are going to find useful," said Dane Linn, director of the education division of the NGA's Center for Best Practices. Those who participated in the feedback process said the bulk of the current revamping involves making English standards easier to understand. Many reviewers faulted the draft for not making it clear which elements were the standards themselves and which were other ideas or principles. Forty-eight states have signed on to support the standards effort. The first public draft had been slated for a December release, but has now been pushed to mid-February. Read more:

http://www.edweek.org/ew/articles/2010/01/28/20common_ep.h29.html?tkn=NVB Fj6GKJjHOwfsKU9PCRhXqNmakRSxIRznG

- **News from The Space Place at NASA**

1. **NASA Gives Kids Their Own Guide to Climate Change**

A blinking red-eyed tree frog and flitting butterfly greet visitors to the new NASA Climate Kids website. Targeting grades 4#6, this kid-friendly guide de-mystifies one of the most important science issues of our time.

The site answers the "Big Questions! about global climate change using simple illustrations, humor, interactivity, and age-appropriate language. For example, one interactive feature is the Climate Time Machine, which reveals how global changes have affected or will affect our planet over time. "Climate Tales! has animal cartoon characters coping (more or less good-humoredly) with the effects humans are having on their habitats. A collection of Earth-science-related games offers such experiences as "Wild Weather Adventure! and "Missions to Planet Earth.! A Green Careers section profiles real people doing jobs that help slow climate change. Visit Climate Kids at <http://climate.nasa.gov/kids>.

2. **Flipping the Lights On Cosmic Darkness**

Exploring the universe is a bit like groping around a dark room. Aside from the occasional pinprick of starlight, most objects lurk in pitch darkness. But with the recent launch of the largest-ever infrared space telescope, it's like someone walked into the room and flipped on the lights.

Suddenly, those dark spaces between stars don't appear quite so empty. Reflected in the Herschel Space Observatory's 3.5-meter primary mirror, astronomers can now see colder, darker celestial objects than ever before—from the faint outer arms of distant galaxies to the stealthy "dark asteroids" of our own solar system.

Many celestial objects are too cold to emit visible light, but they do shine at much longer infrared wavelengths. And Herschel can observe much longer infrared wavelengths than any space telescope before (up to 672 microns). Herschel also has 16 times the collecting area, and hence 16 times better resolution, than previous infrared space telescopes. That lets it resolve details with unprecedented clarity. Together, these abilities open a new window onto the universe.

"The sky looks much more crowded when you look in infrared wavelengths," says George Helou, director of the NASA Herschel Science Center at Caltech. "We can't observe the infrared universe from the ground because our atmosphere blocks infrared light, and emits infrared itself. Once you get above the

atmosphere, all of this goes away and suddenly you can look without obstruction.”

Herschel launched in May from the Guiana Space Centre in French Guiana aboard a European Space Agency Ariane 5 rocket. Since then, it has expanded the number of distant galaxies observed at far infrared wavelengths from a few hundred to more than 28,000. And with the instrument testing and system check-out phases finally completed, the discoveries are only now beginning.

Beyond simply imaging these dark objects, Herschel can identify the presence of chemicals such as carbon monoxide and water based on their spectral fingerprints. “We will be able to decipher the chemistry of what's going on during the beginnings of star formation, in the discs of dust and gas that form planets, and in the lingering aftermath of stellar explosions,” Helou says.

And those are just the expected things. Who knows what *unexpected* discoveries may come from “flipping on the lights?” Helou says “we can't wait to find out.”

Herschel is a European Space Agency mission, with science instruments provided by a consortium of European-led institutes and with important participation by NASA. See the ESA Herschel site at sci.esa.int/science-e/www/area/index.cfm?fareaid=16. Also, see the NASA sites at herschel.jpl.nasa.gov, www.herschel.caltech.edu, and www.nasa.gov/mission_pages/herschel. Kids can learn about infrared light by browsing through the Infrared Photo Album at The Space Place, spaceplace.nasa.gov/en/kids/sirtf1/sirtf_action.shtml.

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