

E-blast # 1 February 2012

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1. NABT: Darwin Day is February 12. For NABT resources, see <http://www.nabt.org/websites/institution/index.php?p=110>. Also, congratulations to Rayne High: NESCent evolution research from North Carolina (<http://www.nescent.org/>) is coming to Rayne HS on February 8th. They will have PhD's discussing evolution, what's new, saber toothed cats and large carnivores and plant genomes. What a great event.

Please send nominations to aeppeebles@aol.com for the 2012 Louisiana Outstanding Biology Teacher Award. Nominate yourself, a colleague, or anyone you know who is a deserving Louisiana Biology teacher. Just send me their name, school, email, phone number. I will then send them the application form to fill out. Winners will be honored at a special luncheon at the NABT national conference in Dallas next fall and will receive a microscope, one year membership in NABT, certificates, and other awards. The deadline for nominations is March 15 but please get them in as soon as possible to allow more time for the application process. Winners are announced in June. Thanks! Patsy Peebles

2. Ferris Wheel Day (February 14, 1859)

George Washington Gale Ferris, an American engineer and inventor, invented the Ferris Wheel for the Chicago World's Columbian Exposition in 1893. The first Ferris Wheel, built specifically for the fair, was 250 feet in diameter and could carry 40 passengers in 36 coaches.

Students practice trigonometry by developing functions to describe the height of a Ferris wheel rider. Watch this lesson unfold in *Teaching Math: A Video Library, 9-12*, program 7, "[Ferris Wheel](#)."

3. National Engineers Week 2012 is held February 19-25; this is an excellent opportunity to make new partnerships to integrate engineering elements into your events! The theme for 2012 is based on the projected world population of 7 billion.

[EWeek](#) is dedicated to ensuring a diverse and well-educated future engineering workforce by increasing understanding of and interest in engineering and technology careers.

EWeek promotes recognition among parents, teachers, and students of the importance of a technical education and a high level of math, science, and technology literacy, and motivates youth, to pursue engineering careers in order to provide a diverse and vigorous engineering workforce. Each year, EWeek reaches thousands of schools, businesses, and community groups across the U.S.

More information on National Engineers Week is available here:

<http://www.eweek.org/Home.aspx>.

Visit <http://www.ieee.tv> for videos that can be useful tools in attracting young students to consider science and math.

4. As part of President Obama's National Policy for the Stewardship of the Ocean, Our Coasts, and the Great Lakes, the National Ocean Council has released a draft National Ocean Policy Implementation Plan to address some of the most pressing challenges facing the ocean, our coasts, and the Great Lakes. The draft Implementation Plan describes more than 50 actions the Federal Government will take to improve the health of the ocean, coasts, and Great Lakes, which support tens of millions of jobs, contribute trillions of dollars a year to the national economy, and are essential to public health and national security.

Input is currently being sought on the National Ocean Policy Implementation Plan, recently released for public comment. **Education actions are on pages 23-25.**

The draft Implementation Plan will ensure the Federal Government targets limited resources more effectively to deliver demonstrable results for the American people, including predictability for users, more efficient and coordinated decision-making, and improved sharing of data and technology. For each action, the Plan outlines key milestones, identifies responsible agencies, and indicates the expected timeframe for completion.

Click on this link to read the draft Implementation Plan.

http://www.whitehouse.gov/sites/default/files/microsites/ceq/national_ocean_policy_draft_implementation_plan_01-12-12.pdf

Click here to provide comments on the draft Implementation Plan. The public comment period is open until midnight EST, February 27, 2012.

<http://www.whitehouse.gov/webform/submit-comments-draft-implementation-plan>

5. Let's Play Maintenance Grants Deadline: February 29

Thanks to generous support from Dr Pepper Snapple Group, KaBOOM! will be awarding grants of \$750 each to communities this year who wish to make their playgrounds cleaner, safer and more inviting. The Let's Play Spruce grants are designed to reward communities that have maintained and spruced their playspaces since their playground build. If you've done a "spruce up" project at your playground that involved volunteers in the last 6 months, you are eligible to apply. Alternatively, if you are a community that needs to refill the wood fiber playground surfacing at the playground, you can apply for \$750 to be used towards the purchase of the surfacing. <http://bit.ly/zteju2>

6. Are you smarter than an NOSB student? Test your knowledge of ocean sciences by playing the new Ocean Sciences Quiz at <http://osq.mit.edu/>! The National Ocean Sciences Bowl has been working with the MIT Sea Grant College Program to develop an online game to promote ocean literacy and engage students, teachers, and teams worldwide. The first phase (single-player) of the Ocean Sciences Quiz (OSQ) is now available to play! The multi-player mode, as well as other exciting features, will be available later this spring.

To ensure NOSB students, as well as any high school student interested in ocean sciences, remain involved with the OSQ, we are holding a contest during the month of February to encourage quality question writing. We want students to populate this new online game with their own questions. All questions will be vetted by a team of marine science professionals. To learn more about the contest and prizes, please visit <http://osq.mit.edu/contest.html> or click the floating "message in a bottle" on the front page. The contest is open only to high school students, but anyone can submit questions. Contest winners will be notified in May 2012.

7. USNA and USMA have launched our first annual online design competition. This year is a spin off from the popular West Point Bridge Building Competition, but modified for 6th and 7th graders. It provides students with a realistic introduction to engineering through hands-on design experience and it is FREE. Contestants may compete on behalf of either Army or Navy and can compete individually or in teams of two, once registered via a teacher sponsor. More info attached and at <http://www.usna.edu/STEM> Final day for design submissions: March 1, 2012 Winners go to West Point for the finals in May.

8. National Groundwater Week March 11 – 17, 2012, spotlights one of the world's most important resources — groundwater. Who should be "aware" of groundwater? Quite simply, everyone! Groundwater is essential to the health and well-being of humanity and the environment. Whether you're on a public water system or a private well, whether you are a health care official, policymaker, regulator, or someone interested in water resources or the environment in general — groundwater awareness is important to you. You can find more information on groundwater and water well stewardship by going to NGWA's Web site for well owners, www.wellowner.org.

9. More stars. Less light. Participate in GLOBE at Night!

Calling all Earthlings! Take a few minutes to get involved in the GLOBE at Night campaign to preserve dark skies! GLOBE at Night is a citizen-science campaign open to people all over the world to raise awareness of the impact of light pollution by inviting citizen-scientists to measure their night sky brightness and report their observations to a website from a computer or smart

phone. Light pollution threatens not only our “right to starlight”, but can affect energy consumption, wildlife and health. Through 2011, people in 115 countries contributed 66,000 measurements, making GLOBE at Night one of the most successful light pollution awareness campaigns to date. Please join us to participate in the 2012 campaign an hour after sunset until about 10pm February 12 through 21, March 13 through 22, and April 11 through 20. For information and resources, visit us at www.globeatnight.org.

10. Let's Play Community Construction Grants Deadline: March 16

Dr Pepper Snapple & KaBOOM! are excited to offer \$15,000 Let's Play Playground Construction Grants to qualifying organizations within the U.S. wishing to build brand new playgrounds using the KaBOOM! community-build model. Grantees will plan their project, and share best practices and challenges through the KaBOOM! website. For more information on eligibility requirements and how to apply, visit www.kaboom.org/grants

11. National Spaced Out Sports Design Challenge

Gr 5-8 National Spaced Out Sports Design Challenge Deadline: Mar. 16

Students in grades 5-8 throughout the United States are invited to participate in Spaced Out Sports, a national design challenge that applies Newton's Laws of Motion by designing a game for the International Space Station astronauts to play in space. The goal is for students to learn the “science behind the game” on Earth and in microgravity.

Students will submit game demonstrations via a playbook and video. Submissions will be accepted from schools, home school groups, after-school or enrichment programs. Awards include: 1st Place -- NASA school-wide or program-wide celebration (U.S. teams only); Top 3 Teams -- games played on the space station and recorded for a future broadcast; All Contributing Schools and Programs -- opportunity to participate in a Digital Learning Network webcast with astronauts on the space station.

Spaced Out Sports student and educator resources include posters, bookmarks, curriculum guides, career videos and Digital Learning Network Modules. All include NASA astronauts, engineers and celebrity sports figures engaging students in relevant space-sports connections by explaining and demonstrating the “science behind their work and/or game.” Featured are: former astronaut and NASA Associate Administrator for Education Leland Melvin and astronaut Nicole Stott; Olympic gymnast Nastier Liken; NASCAR's Juan Pablo Montoya; basketball's Tameka Johnson; football/Super Bowl champions New Orleans Saints; and hockey's Ryan O'Reilly and the Colorado Avalanche.

Spaced Out Sports is managed by NASA's Stenos Space Center Education through the Teaching From Space Office at NASA's Johnson Space Flight Center in Houston. For more information and to register for the challenge visit: <http://SpacedOutSports@nasa.gov>. E-mail inquiries to:

12. The Kavli Science Video Contest was founded as a USA Science & Engineering Festival student competition. The contest promotes STEM subject learning by challenging students to research, brainstorm, and communicate creatively through video. Students in grades 6-12 make a short video(:30-:90) that shows how scientific discoveries and inventions can improve our lives and change our world, either right now or in the future.

This year the contest theme is "Save the World Through Science and Engineering," inspired by the National Academy of Engineering's Grand Challenges. The winners receive cash prizes. The first place winner will also receive a travel stipend to attend the Expo in DC . Entry deadline is Mar. 21, 2012.

The National Association of Secondary School Principals has placed this program on the NASSP National Advisory List of Student Contests and Activities for 2011-2012.

To learn more: <http://www.usasciencefestival.org/2012festival/contests/kavli-video-contest>

13. 2012 Craig Tufts Education Scholarship Applications are due by March 31. Students between the ages of 8-18 are invited to apply for the 2012 Craig Tufts Educational Scholarship to attend a week-long nature adventure camp in Colorado. The winning student will receive a full paid scholarship for themselves and an adult chaperone (including airfare, lodging, food and registration fees). Apply or learn more online at: <http://www.familysummits.org/craigtufts.php> or contact Eliza Russell at Russell@nwf.org to receive the application package.

14. Google Science Fair Taking the traditional science fair out of the school gymnasium and placing it on the Web, Google has launched its 2012 Global Science Fair this month, a follow-up to last year's inaugural event. The fair is open to any student (age 13 to 18) from anywhere who has access to the Internet and to a Web browser. The Google Science Fair is an online science competition seeking curious minds from the four corners of the globe. Anybody and everybody between 13 and 18 can enter. All you need is an idea. The deadline to enter is April 1, 2012. Please visit: <http://www.google.com/events/sciencefair/>

15. The Discovery Education 3M Young Scientist Challenge is now accepting entries for the 2012 competition. Open to students in grades 5-8, the Young Scientist Challenge provides the opportunity for one lucky student to win: **\$25,000**, an once-in-a-lifetime trip with Discovery Student Adventures, and the distinguished title, "America's Top Young Scientist."

Ten finalists will have the opportunity to work directly with a 3M scientist during an exclusive summer mentorship and bring their innovative ideas to life.

When you visit:

<http://www.youngscientistchallenge.com>

you will find:

- Entry topics and guidelines
- Lessons and interactive to use in the classroom
- A letter to send home to parents (in both English and Spanish)
- Free downloadable certificates for your classroom's science stars

The deadline to enter online is April 19, 2012.

16. LESTA is accepting Outstanding Earth Science Teacher Award applications at this time. The award seeks to recognize the contributions of teachers who teach Earth Science for a significant amount of their schedule. The OESTA recognizes educators who demonstrate excellence in teaching through student experiences that foster earth awareness, appreciation, or environmental stewardship. Consider nominating yourself or a colleague.

Applications are available online (<http://nagt.org/nagt/programs/oest.html#nomination>) and should be submitted with supporting documents by April 30, 2012. For more information contact Wendy DeMers 2ydnew2@gmail.com.

17. Rhythm and Math

http://www.thefutureschannel.com/dockets/realworld/the_rhythm_track/index.php When students ask, "Why do I need math? I'm going to be a musician!", introduce them to world-renowned drummer Ndugu Chancler. This six-minute movie contains amazing drumming, a breakdown of the mathematics of rhythm and a professional's opinion on technology and creativity. Watch the movie and download the classroom activity.

18. One of the nation's largest education partnerships, MATHCOUNTS promotes middle grades math achievement through volunteer and corporate sponsor involvement.

The MATHCOUNTS Competition is a national middle school coaching and competitive mathematics program that promotes mathematics achievement through a series of fun and engaging "bee" style contests. The program exists in all 50 states plus U.S. territories and the Department of Defense and State Department schools and is supported by the National Society of Professional Engineers at the state and local levels. Honored by five U.S. Presidents and now in its 29th year, MATHCOUNTS provides exciting math programs that give students a foundation for further math success. Public, private, religious and home schools alike are eligible to participate, as long as students are in the sixth, seventh and/or eighth grade.

What Resources Do Schools Receive? <https://mathcounts.org/club>

Upon Request, free problem sets and group activities are provided to schools in a Club in a Box Resource Kit. The activities provided for the Club Program foster a social atmosphere, and there is a focus on students working together as a club to earn recognition and rewards.

Each year, the [MATHCOUNTS School Handbook](#) is provided to all middle schools nationwide. The handbook is FREE and is designed to prepare students for the excitement and the challenge of the MATHCOUNTS Competition series! A wealth of resources are available on our website to participating teachers (referred to as MATHCOUNTS Coaches), including the [FREE Competition Sets](#) available for download, as well as the [MATHCOUNTS School Handbook](#), available for download in its entirety. MATHCOUNTS Club Program materials can also be used to supplement classroom teaching. The activities and problems are written to meet the National Council of Teachers of Mathematics standards for grades 6-8.

19. Sir Isaac Newton's Own Annotated Principia Mathematica Goes On-line

<http://www.downes.ca/cgi-bin/page.cgi?post=56812>

<http://www.guardian.co.uk/science/2011/dec/12/isaac-newton-principia-mathematica>

20. 7 Places to Get Free Supplies or Money for Your Classroom

As the new school year starts many of us will look around our classrooms and compile lists of things

that we need or would like to have. And many of us will end up cracking into our personal bank accounts to get those things. (The fact that the IRS allows teachers to deduct up to \$250 without receipts is indication enough that a lot of teachers spend their own money for school supplies).

Before you run off to Staples, do a little research and you just might find that you can get some of the things you need without spending your own money. Here are some online resources you can try to get money and or supplies for your classroom this year.

<http://www.freetech4teachers.com/2011/08/7-places-to-get-free-supplies-or-money.html>

21. Virtual Microscope

<http://www.udel.edu/biology/ketcham/microscope/scope.html>

22. SEDL's Southeast Comprehensive Center provides support videos for the Common Core State Standards (CCSS) in Mathematics. The CCSS videos are designed to support states, schools, and teachers in the implementation of the CCSS. Each video is an audiovisual resource that focuses on one specific standard and usually includes examples/illustrations geared to enhancing understanding. The intent of each content-focused video is to clarify the meaning of the individual standard rather than to be a guide on how to teach each standard although the examples can be adapted for instructional use. The videos can be accessed at the lower left corner of the page at <http://secc.sedl.org/>.

23. The [National Earth Science Teachers Association](#) (NESTA) is working hard to reach out to K-12 Earth and space science teachers and let them know about the [resources and services](#) we offer them. NESTA is the largest association of Earth and space science educators nationally, working at the national as well as with affiliated organizations at the state level. NESTA offers educational resources, professional development, a quarterly journal, monthly updates on opportunities for Earth and space science teachers through our electronic newsletter, and weekly Special Alerts about upcoming opportunities for teachers. NESTA is the home of [Windows to the Universe](#), one of the most popular Earth and space science education websites in the world, with over 9000 pages of free Earth and space science content. Windows to the Universe is filled with classroom activities, interactives, and videos that provide an engaging venue for learning. NESTA advocates for Earth and space science at the national and state levels, and provides the opportunity for K-12 Earth and space science teachers to join a vital and engaged professional community.

24. Learn About Physics Through the Circus

In 2010 PBS aired a short series called Circus Physics. Circus was a documentary about the Big Apple Circus. The show took viewers behind the scenes of a traveling circus production. All six of the episodes are currently available to [watch online](#). The Circus website offers some short circus-based physics lessons. [Circus Physics](#) is a series of eight short videos. Each of the videos features a circus act that demonstrates a basic principle of physics. Each video clip is accompanied by text and image explanations.

More stars. Less light. Participate in GLOBE at Night!

25. Energy Lab Program Open to Secondary Schools

American middle and high schools are now eligible to participate in the U.S. Department of Energy's Laboratory Equipment Donation Program (LEDP) program. For over 30 years, this program has enabled colleges and universities to acquire hundreds of millions of dollars in high-quality surplus laboratory equipment from the department's National Laboratories.

The listing of free equipment available through LEDP is updated periodically, as new equipment is identified. It is made available for a limited time on a first-received application, first-qualified basis. The Department of Energy invites schools to acquire equipment by reviewing the list and completing an electronic application at the LEDP web site (<http://www.osti.gov/ledp/>).

27. EPA Offers Climate Change Toolkit for Middle School

The U.S. Environmental Protection Agency has released a free collection of resources to enhance middle school students' understanding of climate change impacts on the United States' wildlife and ecosystems.

"Climate Change, Wildlife, and Wildlands: A Toolkit for Formal and Informal Educators" contains case studies, activities, and videos based on climate science, environmental education, and stewardship information. The toolkit is available online at <http://www.globalchange.gov/resources/educators/toolkit>. For more information, see <http://www.epa.gov/climatechange/wycd/CCWKit.html>.

28. Spring's Journey North Join citizen scientist track arrival of spring.

A network of students and other citizen scientists at 40,000 sites are tracking spring with Journey North, a non-profit science education and outreach project. Members of the public are welcome to participate in this spring's 19th annual global study of wildlife migration and seasonal change. Contribute your backyard observations to a long-term database and monitor signs of the seasons. Help track migration patterns of monarch butterflies, hummingbirds, robin, and other backyard birds; the blooming of plants; changing sunlight, temperatures, and other signs of spring. Thanks to Annenberg Learner, participation in Journey North is free.

Journey North's [Snow Facts](#) page provides links to useful information on snow, including average snowfalls in the U.S. and how snowfall affects tulip bulbs in your garden. See pictures of Wilson Bentley, also known as the "Snowflake Man," doing his snowflake studies in *Journey North*, [Snowflakes: Tiny Miracles of Beauty](#).

For information about this spring's free projects see: <http://www.learner.org/jnorth/>

29. NBC News, NBC Sports and National Science Foundation Launch "Science of NHL Hockey"

NBC News' educational arm, NBC Learn, and the NBC Sports Group recently teamed up with the National Hockey League (NHL) and National Science Foundation (NSF) to release "Science of NHL Hockey"--an informative 10-part video series exploring the science behind the fastest game on ice.

Made especially for students and teachers to use in the classroom, the videos will be aligned to lesson plans and national state education standards, and are available to the public cost-free on NBCLearn.com, NBCSports.com and Science360.gov. Students and teachers see how the principles of science enable players to perform actions such as quickly stopping on ice, passing the puck to a teammate, shooting a slap shot and making a great save. The science is broken down by capturing the athletes' movements with a state-of-the-art, high-speed Phantom camera, which has the ability to capture movement at rates of up to 10,000 frames per second. These dynamic visuals allow for frame-by-frame illustrations of specific scientific principles such as Newton's Three Laws of Motion, kinematics and velocity. Other video episodes analyze the hockey science behind reflexes and reaction time, statistics, vectors, linear motion, geometry and more. More at

http://www.nsf.gov/news/news_summ.jsp?cntn_id=122964&WT.mc_id=USNSF_51&WT.mc_ev=click

30. PhET Simulations Provide Interactive Learning Tools

The PhET project, which was founded by Nobel Laureate Carl Wieman, offers simulations where students can simulate experiments and more

More at http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=122864&WT.mc_id=USNSF_1

The [PhET](#) project, provides free, interactive, research-based simulations of physical phenomena for elementary through university students. NSF's Directorate for Education and Human Resources (EHR) provides primary support through its Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics program (and its predecessor the Course, Curriculum and Laboratory Improvement Program) and the Discovery Research K-12 program. The simulations are presented as individual exploratory environments rather than courses, so each computer simulation can be integrated into various classroom activities.

31. Interactive Buoyancy Demos

NOAA has the Chesapeake Bay Interpretive Buoy System (CBIBS). In addition to providing some great data that can be used in the classroom, this system acts as a outstanding introduction to an interactive engineering classroom activity that teaches students about buoyancy. The Build-A-Buoy activity is mostly used at the elementary school level, but could be adapted for older audiences. Check out the following links for additional information.

<http://chesapeakebay.noaa.gov/images/stories/education/ncbohowtobab.pdf>

<http://chesapeakebay.noaa.gov/community-generated-observations/student-built-buoys>

<http://secoora.org/sites/default/files/webfm/classroom/documents/BuildABuoyManuscript.pdf>

<http://www.baybackpack.com/index.cfm?page=app.resources&keyword=61>

<http://blog.baybackpack.com/?tag=chesapeake-bay-interpretive-buoy-system>

<http://www.baybackpack.com/index.cfm?page=app.resources&keyword=61>