

CONNECTICUT SCIENCE CONNECTION

AUGUST 28, 2007 ISSUE

THE CONNECTICUT BUILDING A PRESENCE FOR SCIENCE NETWORK IS SUSTAINED THROUGH A GRANT FROM BRISTOL-MYERS SQUIBB AND THE ADVOCACY OF THE CONNECTICUT ACADEMY FOR EDUCATION

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NAMES AND E-MAIL ADDRESSES OF OUR POINTS OF CONTACT AND KEY LEADERS ARE NOT SHARED WITH ANY OTHER ENTITY



WELCOME
BACK to another
exciting year
of teaching
and
learning!

**IF YOU HAVE CHANGED
SCHOOLS OR YOUR EMAIL
ADDRESS, PLEASE SEND AN
EMAIL TO:**

CHARTSHORN@CTACAD.ORG

**LISTING YOUR NEW EMAIL
AND/OR SCHOOL NAME AND IT
WILL BE UPDATED ON THE
DATABASE.**

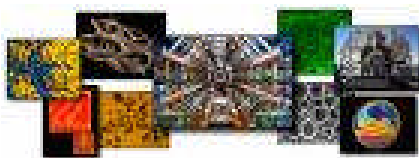
We are proud to announce that we have another author in our midst! Point of Contact Bill Peltz has written a book entitled: Dear Teacher: Expert Advice for Effective Study Skills. How to help the student learn how to learn: how to take notes and organize a notebook, how to annotate a text, how to learn material for tests. Those of you fortunate enough to have attended some of the many workshops Bill has presented for CSTA over the years will know what a valuable resource he is. Congratulations! You can find it at Amazon.com

57 WORKSHOPS! EXHIBITORS WITH LOTS OF STUFF AND INFORMATION! HUNDREDS OF FELLOW TEACHERS OF SCIENCE! (AND MUMMIES!)



The 2007 Connecticut Science Educators' Conference Program is here! [Click here](#) for more information. This year you may register for the conference online. You may also pay your membership dues online. You can even register and pay dues at the same time! Follow the directions from the homepage for membership, or save a step and do both at once with your conference registration. To register, go to:

<http://www.csta-us.org/>



Nanotech Symposium for Educators and Journalists: Join us for a lively journey into the mysterious world of the very small, and take part in provocative discussions concerning nanotech's very big potential impacts.

This is a day of continuing education and enrichment with top researchers and experts skilled at communicating science and technology to lay audiences. Multiple break-out sessions are targeted to the varying needs of educators and journalists. Topics include *Nano 101*, *Nanotech and Society*, *Visualizing the Nano World*, *Teaching Nano*, *Nanomedicine*, *Nano and Consumer Health and Safety*, and *Covering the Nano Beat*.

Audience: Middle/High School Educators and Journalists. Available: Friday, October 26, 9:00 a.m. – 4:00 p.m. Registration required: 617-723-2500. Fee: \$25, includes parking, lunch, PEP certificate, and Exhibit Halls admission (open to 9:00 p.m. on Fridays). For updated information: mos.org/educators.

Co-sponsored by the Center for High-Rate Nanomanufacturing at Northeastern University, the University of Massachusetts Lowell, and the University of New Hampshire and by the Nanoscale Science and Engineering Center at Harvard and MIT.

**STUDENT OPPORTUNITIES!
FROM MARY ANNE BUTLER, CT
STATE DEPARTMENT OF
EDUCATION:**

The People Speak is sponsoring a series of Global Debates for high school students. During ten day periods in October 2007 and March 2008, students across the

globe will be organizing public debates in their high schools and coordinating a global vote on the debate topics. October's debate topic is on the best way to lower carbon emissions and March will focus on water rights – both serious issues facing the US and the world. Information on the debates can be found at: www.thepeoplespeak.org Victoria Baxter, Director of The People Speak (vbaxter@unfoundation.org).



The Moon: Back to the Future: Contest at a Glance:

The National Aeronautics and Space Administration invites college students from the arts, including industrial design, architecture, computer design, and the fine arts, to submit their work on the theme: **Life and Work on the Moon.**

The art contest gives students and faculty an opportunity to form an inter-disciplinary team to collaborate with science and engineering departments, either at their institution or other institutions, to produce the most well-informed art work possible. One suggestion is that the

art project be a for-credit semester long effort and include consultations with science departments to develop the final entry. <http://artcontest.larc.nasa.gov/> Please direct any questions to Dr. Elizabeth Ward at Elizabeth.B.Ward@nasa.gov

2007-2008 JWOD/JETS NATIONAL ENGINEERING DESIGN CHALLENGE: The JWOD/JETS National Engineering Design Challenge (NEDC) is a competition in which teams of students learn and apply engineering skills while making a difference in the lives of persons with disabilities. Through this cross curricular experience, students apply problem solving, math, science, research, writing, presentation, and drafting/design skills by creating an engineered assistive technology device for persons with disabilities. Five select teams will be awarded all-expense paid trips to Washington, DC to present their designs and compete for prizes at the annual NEDC Finals Competition on February 15-16, 2008. The team selected as the best overall design will win \$3,000 for their school's sponsoring department, plus a trip to the 2008 NISH National Training and Achievement Conference, May 4-6, 2008 in Los Angeles, CA. Two additional winning teams will be awarded \$1,500 for their school's sponsoring department. Registration begins September 5, 2007. A Triangle Coalition member, JETS, works to increase interest and awareness of engineering and technology-based careers with student competitions, assessment tools, career guidance resources, an e-newsletter, and resource materials for parents and counselors. JETS programs excite high school students about careers in engineering and related technical fields and help them understand the critical role engineers play in the world around us. More details are at www.jets.org.

In an attempt to keep the CSC at readable length, the following links will allow you to access offerings in Previous Issues ([Return to Table of Contents](#))

<http://www.cssaonline.net/CSCAug7.pdf>
<http://www.cssaonline.net/CSCJuly10.pdf>
<http://www.cssaonline.net/CSCJuly24.pdf>

Greater Hartford Academy of Math and Science (GHAMAS) will be holding its annual professional development conference for middle/ high school math and science teachers on Tuesday, Nov 6, 2007. Currently, GHAMAS is looking for presenters that would like to present a two hour session in math or science. If you are interested, please email Rachael Manzer rmanzer@crec.org

The UConn Material Advantage (UCMA) society is made up of engineering students from several disciplines interested in sparking scientific inspiration in kids in CT schools. Each year they develop a Materials Quiz that focuses on the achievements of Connecticut scientists and engineers at CT companies and send it out to teachers. They are also offering teachers the opportunity to have them come into their classrooms and do presentations or help with longer experiments as well. Details can be found at: <http://www.cssaonline.net/UCMAQuiz&CL2007.doc>

MONSANTO INVITATION!

MONSANTO
imagine



The Monsanto Research Center in Mystic will be having an Open House on Saturday, September 8th, from 9:00 a.m. until 12:00 noon. The Mystic Research Center is a premiere laboratory and greenhouse facility focusing on plant biotechnology for the improvement of agricultural products. There will be guided tours of the facility, research demonstrations, children's activities, and a really fun and educational corn maze. Tours are also available in Spanish. Admission is FREE!

The Research Center is located at 62 Maritime Drive in Mystic, CT. Follow Interstate-95 to Exit 90. Next, follow Route 27 South and at the light by Friendly's, go left onto Coogan Blvd (towards the Aquarium). Stay on Coogan Blvd. and turn right onto Maritime Drive, which is the first road past the Mystic Hilton. The Monsanto Mystic Research Center is the second building on the right. We hope to see you there!

Take Action: Tell Congress to Support Including Environmental Education in NCLB

http://www.democracyinaction.org/dia/organizationsORG/cel/campaign.jsp?campaign_KEY=7147

Looking for a Science Position? Check out openings at: www.cssaonline.net/employmentopportunities.htm

THE FOLLOWING MATERIAL COMES FROM THE STATE DEPARTMENT OF EDUCATION AND IS INTENDED TO ASSIST EDUCATORS IN IMPLEMENTING THE FRAMEWORKS:

From Liz Buttner at the State Department of Education:

In response to numerous requests for information about kit-based curriculum units that are aligned with the content and inquiry skills in Connecticut's science framework, please see the attached documents:

(NEW) Kit Matrix 4-6: includes published learning units for ALL content standards in Grades 4-6

Kit Matrix-ES: includes published learning units only for Earth Science (originally sent on June 19)

Inquiry Learning Materials: includes contact info for publishers reps for all kits shown on the matrix (originally sent on June 19)

Please keep in mind that this is not an exhaustive list of all available instructional materials, nor should it be interpreted as an endorsement of any of the products or publishers included on the list. Also, note that nationally-developed and researched learning units have many advantages over those that are locally developed (teacher manuals, supplies, on-line support, etc.), but none of them are "perfect". They are, however, a good foundation which can be supplemented with other learning materials and experiences.

Connecticut's Department of Environment Protection has an excellent education division with a wealth of materials for teaching concepts in the 2004 Core Science Curriculum Framework. Below are links to some examples:

[Educator Resources](#) – teacher workshops, school outreach programs, class field trips

[Environmental Science Curriculum Materials](#) – air/water quality, climate change, CT wildlife, recycling/composting, Long Island Sound and CT waterways

[Curricula](#) – information and teacher workshops for Project Wet, Project Wild, Project Aquatic Wild, Project Learning Tree, Food-Land-People, BirdSleuth, Project SEARCH, etc. If you're looking for engaging ideas for teaching students about the design process and the forces at work in different bridge designs...

Attached is a "mini-unit" from a Prentice-Hall technology education program called "Learning By Design". In addition, below are several more **great resources** that have everything you need to engage students in exploring the "ups and downs" of BEAM, TRUSS, ARCH and SUSPENSION bridges:

1. The National Building Museum has a very nice unit about the tension and compression forces involved in various bridge designs; complete with experiments, books, websites, etc. Here is the link to print out the teacher's guide and learning unit (no cost) http://www.nbm.org/Education/Educator/Bridges_ERPacket.pdf. A bridges curriculum materials kit is also available for \$100: <http://www.nbm.org/Education/bridgeBasics/bridgeBasics.html>.

2. The US Military Academy offers free bridge design software and a cool contest for international middle school students! <http://bridgecontest.usma.edu/purpose.htm>
3. PBS/Nova has a great episode called "Super Bridge" available for viewing, along with this companion website with teacher's guide, bridge information, on-line simulation game, etc. <http://www.pbs.org/wgbh/nova/bridge/>
4. PBS has another excellent site that includes a bridge forces on-line lab in which students can vary the tension and compression forces applied to different materials: <http://www.pbs.org/wgbh/buildingbig/bridge/>

Have fun with your students learning about the design process (and how it differs from the scientific method). Maybe you can send me photos of your fledgling engineers in action!

I've been receiving questions about the new elementary and middle school science CMTs to be administered to 5th and 8th grade students beginning in March 2008. These are both cumulative tests, and I want to be sure that everyone knows what content and processes will be assessed and how the tests will be structured. I've summarized this information below, and attached the CMT Blueprints as well as a sample page from the soon-to-be-released "Grade-Level Expectations".

The content that is tested on the elementary and middle school Science CMTs is listed in the Science Framework:
Elementary Science Knowledge: Framework

Expected Performances B.1 through B.25
Elementary Inquiry Processes: Framework Expected Performances BINQ.1 through BINQ.10

Middle School Science Knowledge: Framework Expected Performances C.1 through C.30
Middle School Inquiry Processes: Framework Expected Performances CINQ.1 through CINQ.10

The CMT Science Handbook, once it is available, will restate these same assessment expectations. The CMT Handbook will also include the test blueprint (see attached), the curriculum-embedded performance tasks (available at www.ct.gov/sde) and sample test questions (once they are available after the first test administration). To access banks of sample test items quite similar to the CMT, I highly recommend using the NAEP Questions Tool found at www.nces.ed.gov/nationsreportcard/ITMRLS and the TIMSS bank of released items available at www.timss.bc.edu/timss2003i/released . Information about how to use the NAEP Questions Tool website is available at CSDE's Student Assessment website under "National Tests".
<http://www.cssaonline.net/SDInfo/CMTBlueprints5&8.doc> ,
<http://www.cssaonline.net/SDInfo/GLE3.3sample.doc>
<http://www.cssaonline.net/SDInfo/InquiryLearningMaterials.doc> ,
<http://www.cssaonline.net/SDInfo/KitMatrix4-6.doc> , <http://www.cssaonline.net/SDInfo/KitMatrix-EarthSci.doc> FROM BIOED ONLINE: FOR GRADES 4 AND 6, 4.3 AND 6.4: Create a Lasting Water Cycle: Just posted to BioEd Online, an engaging activity to help your students begin to understand the importance of the water cycle in their daily lives.
FOR K-5 BioEd Online for K - 5 (<http://www.bioedonline.org/k%2D5/>) features resources that may be especially useful to elementary teachers. Secondary teachers also may find strategies that can be adapted to meet the needs of learners with varied abilities in their classrooms.

FRAMEWORKS!! GRADE 9: Materials World Modules Program presents interdisciplinary modules on topics in materials science -- composites, ceramics, concrete, biosensors, biodegradable materials, smart sensors, polymers, food packaging, and sports materials. Modules are inquiry based and hands-on. They incorporate concepts from chemistry, biology, physics, and mathematics. (Northwestern University, National Science Foundation)

http://www.materialsworldmodules.org/modules/Teacher_Sampler.pdf

AN IMPORTANT DOCUMENT: www.cssaonline.net/GLE.doc introduces the Grade Learning Expectations for the Frameworks

This site has released test items in math and science from TIMMS. A great resource: <http://nces.ed.gov/timss/educators.asp>

NASA OPPORTUNITIES: To find out all of the opportunities offered by NASA for Educators and their students, go to this link: <http://www.nasa.gov/audience/foreducators/topnav/actnow/> . For the most recent offerings, go to: www.cssaonline.net/NASAnews.doc



The DNA EpiCenter is pleased to announce that the following positions are now open:

- ❖ **Director of Educational Programs**
- ❖ **Staff Scientist**
- ❖ **Director of Development.**

Please contact Abby Demars ademars@dnaepicenter.org to learn details of the job requirements. Salaries will be commensurate with experience. These are year-round, full-time positions offering a benefits package. The positions will remain open until qualified candidates are hired.



Opportunity for Science Educators Doing Environmental Work: Since 1993, the Anheuser-Busch Adventure Parks have recognized the outstanding efforts of K-12 students and teachers across the country who work at the grassroots level to protect and preserve the environment. [The SeaWorld/Busch Gardens/Fujifilm Environmental Excellence Awards](#) provides school and community groups with a monetary award, national recognition, and some well-deserved fun at one of the adventure parks. Eight winning groups are selected each year to win \$10,000. One environmental educator/leader each year receives \$5,000. The deadline for applications is November 30, 2007. For information about how you, your school, or a student group could win both money and recognition, visit the link above or call toll-free (877) 792-4332.

Bioethics Curriculum Seeking High School Biology Field Test Teachers for Spring Semester 2008:

Funded by the National Institutes of Health, the Center for Applied Ethics and the Center for Science Education at Education Development Center are collaborating on the development of a bioethics curriculum that can serve as a supplement to high school biology classes. . **Application Deadline: September 30, 2007** . For Additional Information Contact: Erica Jablonski, M.A., Center for Science Education, Education Development Center, ejablonski@edc.org or 617-618-2552

STUDENT OPPORTUNITIES!

NASA'S ENGINEERING DESIGN CHALLENGE: PLANT GROWTH CHAMBERS: During the 2007-2008 school year, join NASA's Engineering Design Challenge to design,

analyze, build, and assess plant growth chambers as part of a standards-based activity related to the STS-118 space shuttle mission. [Click here](#) for more information and to register. www.nasa.gov/education.

VSP VISION CARE "VISION OF SCIENCE" AWARD NOW AVAILABLE TO K-12 SCIENCE EDUCATORS:

NSTA is pleased to announce that K-12 science educators will now be eligible to receive the VSP Vision Care "Vision of Science" Award, previously only available to K-8 science teachers. The award recognizes and honors one outstanding classroom science teacher who has developed creative and inventive science lessons that encourage students to learn and understand eye health and vision. The winning teacher will receive a one-year membership to NSTA, a check for \$2,000, and an additional check for \$500 to be used toward travel expenses to attend the NSTA National Conference on Science Education. Additionally, the winning teacher's school will receive a check for \$3,000 to be used exclusively toward furthering the study, teaching, and learning of eye health and vision. To download an application for this award, go to <http://www.nsta.org/pdfs/awards/VSP.pdf>. The deadline for applications is October 15, 2007. [See more.](#)

SCIENCECOMPLIANCE is a new science resource for K-8 schools provided by AccuWeather Education. They are searching for consultants to write and review lesson plans aligned to national and state K-8 science standards. Please Reply to Mary Beth Toczek at Toczek@AccuWeather.com
<http://education.accuweather.com>

ARE YOU INVOLVED IN CURRICULUM DESIGN? Useful curriculum design archives may be found at:
[http://www.curriculumdesigners.com/index.php?Path=Public/\[03\]%20Resources/\[07\]%20Conference%20Archive](http://www.curriculumdesigners.com/index.php?Path=Public/[03]%20Resources/[07]%20Conference%20Archive)



Applications are now available for educators interested in joining NASA Explorer Schools during the 2008-2009 school year. Applications are due **Jan. 31, 2008**. For more information, visit <http://explorerschools.nasa.gov/portal/site/nes/menuitem.3a9dc5f6e0302a448258f708c41a5ea0/>

Ready When You Are — **FOR FREE!** You're teaching a subject for the first time, or for the first time in a long time. You need a content refresher *now*. Where can you find help that's engaging, high-quality, easy to access—and affordable, too? From NSTA's latest ready resource: **Science Objects!** With support from sponsors, including [NASA](#), [NOAA](#), [FDA](#), [the NHTSA](#), [the Hewlett Foundation](#), and [the GE Foundation](#), Science Objects provide all teachers of science open access to these valuable new resources—at no cost! [\[Learn More\]](#)

Free for All from NSTA: NSTA offers many resources and services at no charge; some are available only to NSTA members, but many are available to all. To read about what NSTA has to offer, visit <http://science.nsta.org/enewsletter/2007-06/high.htm>.



The NSTA New Science Teacher Academy, co-founded by the Amgen Foundation with a three-year, \$3 million grant, is a professional development initiative created to help strengthen quality science teaching, enhance teacher confidence and classroom excellence, and improve teacher content knowledge. <http://www.nsta.org/academy/>



In support of **Earth Science Week 2007 (October 14-20)**, the American Geological Institute (AGI) is publishing its "The Pulse of Earth Science" Toolkit. **The Toolkit can be pre-ordered now. Shipping will**

begin in early August. Individual kits are available for the cost of shipping and handling (\$6.95 in the United States). Bulk pricing is available. Visit <http://www.earthsciweek.org/materials/index.html> to order the 2007 Earth Science Week Toolkit.. To learn more about this event, please visit <http://www.earthsciweek.org/>.

FOR OUR HIGHER EDUCATION READERS... WANT TO EXPERIENCE HYPERGRAVITY?: NASA's Reduced Gravity Student Flight Opportunities Project provides a unique academic experience for undergraduate students to successfully propose, design, fabricate, fly and evaluate a reduced-gravity experiment. Interested students should submit a letter of intent by **Sept. 19, 2007.** The letter of intent is optional, but serves as an introductory notice that a team plans to submit a proposal for the upcoming competition. Final proposals are due **Oct. 31, 2007.** For more information, visit: <http://microgravityuniversity.jsc.nasa.gov/>



From a teacher on the NSTA list-serv- Here are some great environmental resources (see the resources for teachers and students at the foot of the page.) I especially like <http://www.soil-net.com/> It has some great activities that work well with many of our lessons---soils, biomes, stream tables, etc.

For short videos available online there is of course the WGBH Evolution website.

<http://www.pbs.org/wgbh/evolution/library/> or

http://www.pubinfo.vcu.edu/secretsofthesequence/playlist_frame.asp. There are 50 titles available here as well.

You'll find some neat and useful ideas at <http://www.indiana.edu/~ensiweb/lessons/unt.n.s.html>. Scroll down to The First Days, and don't forget to check out the other ideas for introducing your kids to the real Nature of Science, on that page, and back on the Teaching Units page (link at top of the page).



4 videocasts on evolution..free CDs upon request. Go to:

[HTTP://WWW.HHMI.ORG/BIOINTERACTIVE/EVOLUTION/](http://www.hhmi.org/biointeractive/evolution/)

Get some great teaching ideas and have some fun, too, watching the Exploratorium's broadcast of "The Iron Science Teacher"! http://www.exploratorium.edu/iron_science

From Liz Buttner at the State Department of Education:

DISTRIBUTION LIST UPDATE: If I don't already have the contact info for a science leader in each of your district's schools, you may want to send me names and e-mail addresses for principals, assistant principals or other designated science contacts in your district who might benefit from being on my distribution list.

We are presently funded by Bristol-Myers Squibb

<http://www.bms.com/landing/data/index.html> MANY THANKS TO OUR SPONSOR