

# CONNECTICUT SCIENCE CONNECTION

# May 2015

THE CONNECTICUT BUILDING A PRESENCE FOR SCIENCE NETWORK IS SUSTAINED THROUGH THE ADVOCACY OF THE CCAT, CONNECTICUT SCIENCE SUPERVISORS ASSOCIATION, AND THE CONNECTICUT SCIENCE TEACHERS ASSOCIATION

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

# **Resources**

CSDE's science curriculum web site.

### **EQuIP Rubric for Science Released!**

The Educators Evaluating the Quality of Instructional Products (EQuIP)
Rubric for Lessons & Units: Science

# Visit the NGSS@NSTA Hub:

The NGSS@NSTA Hub now offers a dynamic version of the Next Generation Science Standards..

# THE 2015 CASE SPRING BULLETIN IS NOW AVAILABLE. IN THIS ISSUE: http://www.ctcase.org/cr.html

Sign up for an online course this summer with Seminars on Science, the American Museum of Natural History's online professional learning program for educators. Get access to cutting-edge research, rich content, and powerful classroom resources. Earn graduate credit and save \$50 when you register with code SCIENCEMATTERS. Enroll now at learn.amnh.org.

The six-week online courses cotaught by experienced scientists and educators include Earth: Inside and Out; Climate Change; The Diversity of Fishes; Evolution; Genetics, Genomics, Genethics; The Solar System, Water and many more.

For more information about the program, check out Seminars on Science at

http://www.amnh.org/learn/ or send us an email at learn@amnh.org or call 800-649-6715.

# APPLY by MAY 4

### **Next Generation Science in Connecticut:**

# 2015 Leadership Development Academy



Science educators, faculty, district leaders, and specialists: help us make science teaching and learning more relevant, accessible and inspiring for all students by participating in the 2015 Next Generation Science Leadership Development Academy.

The Connecticut State Department of Education, in partnership with the Connecticut Science Center, is developing a network of Next Generation Science professional development leaders. Graduates of The Next Generation Science Leadership Development Academy (LDA) will become part of a network of professional learning facilitators that will form the backbone of Connecticut's efforts to make science exciting and inspiring for teachers and students.

If you have the following experience, we encourage you to apply!

- A developed understanding of Next Generation Science teaching and learning
- Experience teaching K–12 science in formal or informal settings
- Expertise in teaching adult learners
- Availability to lead professional learning sessions during school year and summers

Full information on this exciting new initiative, as well as application materials, can be found HERE. The application deadline is May 4, 2015.



Please join us for our annual celebration of excellence, the CSTA/CSSA Awards Banquet on Wednesday evening, May 20, 2015, beginning at 4:30 P.M. with a

reception at Yale's Peabody Museum and followed at 6 P.M. by dinner and awards at the New Haven Lawn Club. Please save the date and plan on joining us to recognize, honor, and thank exceptional students, outstanding teachers, and loyal supporters of science education in Connecticut. Click on the link below for the brochure and registration information! Please save the date , May 20! <a href="http://www.csta-us.org/images/CSTA-CSSA%20Awards%20Banquet%20Flyer%202015.pdf">http://www.csta-us.org/images/CSTA-CSSA%20Awards%20Banquet%20Flyer%202015.pdf</a>



The College of Technology's Regional **Center for Next Generation** Manufacturing would like to invite you to participate in the annual **Engineering Challenge for the 21st Century Teachers Dissemination** Program, July 13, 2015 through July 17, 2015 at the Tunxis Community College in Farmington, CT. This is a great professional development opportunity for community college faculty and high school teachers to engage in problem based learning exercises while learning how to successfully integrate professional skills into your curriculum. To learn more about the Connecticut College of Technology's Regional Center for **Next Generation Manufacturing,** funded by the National Science Foundation and to access the program flyer and application, please visit the website at www.nextgenmfg.org . If you are interested in participating in this exciting program, please complete and return the application form found on the web site.

# STEM PROGRAM AT CENTRAL CONNECTICUT STATE UNIVERSITY!

The MS in STEM Education for **Certified Teachers will prepare** certified teachers in the transdisciplinary areas of Science, Technology, Engineering and Mathematics (STEM). Courses are aligned with National and/or CT state content standards in each discipline: Science, Technology, Engineering, and Math, and the **Common Core for Mathematics and** Language Arts. Does not lead to CT state teacher certification or crossendorsement. In line with the STEM philosophy, courses will integrate the STEM disciplines and provide teachers with the skills necessary to

move away from the traditional way of teaching discrete subjects towards a more comprehensive way of addressing the science, technology, engineering, and mathematics disciplines for use in the classroom to prepare students for 21st century college skills and career readiness. Details can be found at: <a href="http://ccsu.smartcatalogiq.com/current/Undergraduate-Graduate-Catalog/Masters-Degree-Programs/STEM-Education-for-Certified-Teachers-M-S">http://ccsu.smartcatalogiq.com/current/Undergraduate-Graduate-Catalog/Masters-Degree-Programs/STEM-Education-for-Certified-Teachers-M-S</a>. For further information, contact Marsha Bednarski at: <a href="mailto:bednarskim@ccsu.edu">bednarskim@ccsu.edu</a> Admission Requirements:

The MS STEM Education Program is for certified teachers who hold a bachelor's degree from a regionally accredited institution of higher education. Applicants must also have a minimum undergraduate GPA of 2.70 on a 4.00 point scale (where A is 4.00), or its equivalent, and good standing (3.00 GPA) in all post-baccalaureate course work. The admissions application, application fee, and official transcripts from each college and university attended (except Central Connecticut State University) must be submitted to the Graduate Recruitment and Admissions Office.

# **CONGRATULATIONS TO BOB WISNER!**

Wisner to Receive Distinguished Service Award from CASE: The Connecticut Academy of Science and Engineering (CASE) will present a CASE award for Distinguished Service to its member G. Robert Wisner for his outstanding leadership within the Academy and for his exceptional contributions in support of the Academy's mission through dedicated and outstanding leadership of the Connecticut Science and Engineering Fair (CSEF). The CASE Governing Council created the Distinguished Service Award in 2010 to honor members who have provided outstanding service to the Academy. CASE will present the award at its 40th Annual Meeting and Dinner on May 19th at the Crowne Plaza Hotel in Cromwell.

Wisner was elected to CASE in 2007 and has served on three Study Committees: Rail Energy (2014); Weigh Station Technologies and Practices (2008); and Feasibility of Utilizing Fuel Cells to Generate Power for the New Haven Rail Line (2007). In 2010, he was elected to fill a vacancy on the CASE Council through 2014 and for a full-term in 2015.

As Chairman and Director of CSEF, Wisner initiated the Urban School Challenge (USC) with support from the Academy's Endowment Fund. Each year, the USC recognizes a middle school and high school student from an urban district. A past Connecticut Science Fair competitor, his volunteer support of CSEF began in the early seventies when his former 7th grade science teacher asked him to become involved with the CSEF Advisory Council. Wisner became chairman of the CSEF board of directors in 1974 and director in 1989.

While an electrical engineering student at UConn, Wisner joined the United Technologies Research Center (UTRC) -- at the time known as United Aircraft Research Laboratories -- as a summer intern in 1960 and continued full time as a research engineer upon graduation. At UTRC, he conducted research on highenergy lasers, adaptive optics, and power electronics. His research and product development efforts produced 15 patents. Wisner also led a research team in the development of an automated clinical gait analysis system used to evaluate children with cerebral palsy. Wisner finished the last four years of his UTC career at Otis Elevator as engineering manager for elevator drives, retiring in 1999. In addition to his science fair duties, he works as the Technology Director for Barker Mohandas-Vertical Transportation Consultants.

Bitten! Humans vs. Mosquitoes:
A Deadly Serious Game at the Yale
Peabody Museum: Climate Change
and Insect-Borne Disease
Investigations (Grades 7-12)
Yale Peabody Museum of Natural
History DEADLINE EXTENDED:
May 31, 2015



Mosquitoes and pathogens are expanding their ranges due to warming climates, global trade, and human travel patterns. Locally transmitted cases of dengue ("breakbone fever") and chikungunya ("that which contorts") viruses - originating in Asia and Africa - have recently surfaced in Florida and Texas. Symptoms include excruciating joint pain and high fever. No cure or vaccine exists for either disease, and prevention is limited to avoidance of mosquito bites. The same species - Aedes aegypti and Aedes albopictus (the yellow fever and Asian tiger mosquito respectively) - transmit both diseases.

Join the Yale Peabody Museum of Natural History as we investigate how these and other insect-borne infectious diseases (West Nile virus, malaria) expand their ranges as climate variables change. The Peabody has disseminated the curriculum and accompanying kit nationally through NSTA, NABT, and state science teacher associations (Alabama, Texas). Kit resources include mosquito eggs and rearing chambers; mini-aquaria for examination of larval and pupal stages; portable incubator for climate modeling experiments; viral plaque assay mini-kit; laboratory supplies and consumables. An Alabama participant used the curriculum as a springboard for an

AP Environmental Science project, a national finalist in the *Solve for Tomorrow* contest sponsored by Samsung Electronics:

https://www.youtube.com/watch?v=LaoCaJyKnPI&index=1&list=PLyUqcFqvV1uwSoy-F9kZ1w3U-KFrboYmR

We invite grade 7-12 science educators to teach standards-based STEM curriculum mini-units in the classroom:

- structure and function; size and scale
- microorganisms; immune system and infectious diseases
- ecosystem change; ecology and population dynamics
- experimental design

# **Benefits for teachers:** (NOTE Track 1 vs. Track 2 levels of participation)

- FREE 3-day Summer Institute: July 8-10, 2015
- FREE science kit (\$200 value) and standards-based curriculum mini-units
- Peabody Museum family membership with free admission to 280 science museums
- 26 hours credit toward state-mandated professional development requirement
- TRACK 1: \$300 stipend after teaching and assessing entire mini-units in your classroom
  - > Optional ½ day weekend follow up workshop in Fall 2015
  - Ongoing classroom support from museum educators
  - One FREE class visit to the Peabody and the CT Agricultural Experiment Station mosquito lab
- OR TRACK 2: \$100 stipend after teaching 5 selected lessons and providing on-line feedback

To apply, visit <a href="http://peabody.yale.edu/climate-summer">http://peabody.yale.edu/climate-summer</a> (deadline: May 31, 2015).

# **GREEN ATHENAEUM**

Science Writing for Content and Comprehension A two-day workshop for middle school and high school science and English teachers on writing about science topics and STEM disciplines, aligned with the Common Core State Standards Tuesday, July 28 and Wednesday, July 29, 2015, 10 am-4 pm, Tower Hill Botanic Garden, Boylston, MA.

The Common Core State Standards and NGSS/Massachusetts ST/E Standards include research and writing expectations in science classes. On day one, we will examine specific types of writing (narrative, informational, and argumentative styles) and writing prompts, from lab-based abstracts and discussions to science essays and text-based summaries. We'll examine creative ways to integrate science content into writing that engages, motivates, and supports learning and comprehension. Day two will focus on argumentative writing, in which students make claims, organize evidence, build arguments, and summarize their conclusions—all while writing in an objective, formal style. We will begin with research strategies to identify unbiased, authentic sources. Then we will use graphic organizers and writing templates to organize arguments with logical claims and textual evidence—the claim, evidence, reasoning model. STEM controversies provide exciting classroom springboards for objective writing and evidence-based discussion. The workshop will include e-templates of all materials, including argumentative writing packets on several topics, handouts on academic language, open response templates, academic honesty, editing, developing writing prompts, citation style and other skills essential for science writing in your classroom. For additional information, contact

Dr. Judith Sumner at Green.Athenaeum@gmail.com

# CONNECTICUT STUDENTS TO BE AWARDED GERBER MEDAL OF **EXCELLENCE!**

Three outstanding young Connecticut scientists will be awarded the H. Joseph Gerber Medal of Excellence at the 40th **Annual Meeting and Dinner of the Connecticut Academy of Science and** Engineering (CASE) on May 19, 2015, at the Crowne Plaza Hotel in Cromwell. To read more about this even and other Science information, please click on http://www.ctcase.org/

Would you like a complete list of grants that has been provided by the **National Science Teachers** Association? NSTA has put these grant and their deadlines in an easy to follow calendar. It includes: deadline date, description, category, and grade level. To view this list, please visit:

http://www.nsta.org/publications/cal endar/

# Green Teacher!!

Whether working inside or outside schools, youth educators will find in Green Teacher's new book the tools to engage young people from 6-19 years of age in this challenging topic. Invasive species, if unchecked, will continue to have significant negative impacts on our environment and on our economy. Fortunately, the spread of many invasives can be checked. To succeed, we'll need effective education strategies to be widely deployed. This book aims to fill that gap. Included in its 80 pages are descriptions of 13 innovative, youth education programs, and 14 ready-to-use activities that are appropriate for various age groups. \$14.95 single copy, bulk pricing as low as \$5.25. To learn more or place an order visit:

greenteacher.com, email: info@greenteacher.com call: toll free 1-888-804-1488



# What is NMEA 2015? June 29 - July 2, 2014 SENEME,

SouthEastern New England Marine Educators is proud to be the host of the 2015 National Marine Educators Association annual. You can choose the days you would like to attend –or just one day

-to concentrate on the strand that interests you most or all or up to five days to absorb the full impact of marine science education; from lectures and workshops to our vast array of experiential learning opportunities in the Newport Area. Join us at the Newport Marriott, June 28 to July 2, 2015. The National Marine Educators Association Annual Conference is attended by both formal and informal educators, and students from public and private institutions as well as from aquariums, for profit and nonprofit organizations including government agencies. This three to five day event will be filled with an amazing amount of current marine science information. Some of which is related to STEM education and next generation Science standards.

More information can be found online At the NMEA site http://marine-ed.site-ym.com/general/custom.asp?page=NMEA 2015 Or on our site SENEME <a href="http://seneme.org">http://seneme.org</a>



Sign up for an online course this summer with Seminars on Science, the American Museum of Natural History's online professional learning program for educators. Get access to cutting-edge research, rich content, and powerful classroom resources. Earn graduate credit

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and save \$50 when you register with code SCIENCEMATTERS. Enroll now at learn.amnh.org . The six-week online courses co-taught by experienced scientists and educators include Earth: Inside and Out; Climate Change; The Diversity of Fishes; Evolution; Genetics, Genomics, Genethics; The Solar System, Water and many more.

Teaching About Invasive Species: A new bool Foromore information about the program, check out Seminars on Science at http://www.amnh.org/learn/ or send us an email at learn@amnh.org or call 800-649-6715.

> The School of Engineering at UCONN is planning its exciting summer learning opportunity for teachers, the Joule Fellows - Teachers in Sustainable Technologies Research Laboratories program. The Joule Fellow program is intended to provide teachers of science, mathematics, and/or technology subjects with a rare opportunity to gain valuable hands-on laboratory exposure to ongoing research in sustainable energy areas such as biofuels, renewable fuels, fuel cells, energy storage devices (including photovoltaics), other environmental and green energy technologies, as well as related fields. The Joule Fellows program will be conducted at the beautiful Storrs campus. The six-week research program, to begin Monday, July 6th by participating in one week of Da Vinci program at first and will partner you with a UConn faculty member and a graduate student. As a member of a research team, you will hone your research methodology skills and learn to use state-of-the-art equipment for data collection. You will participate in seminars with faculty and graduate students focused on national and international issues in renewable energy, research ethics and the cultural and economic impacts associated with developing sustainable energy.

As a participant in the Joule Fellows program, you will receive a \$5,000 stipend, additional support of \$500 toward travel and general costs, and a certificate of participation. The most important benefit, however, is the knowledge you will take back to your classroom.

Our faculty members and graduate students will work with you to develop experimental setups and curriculum modules for your students that will both engage them and enrich their learning experiences.

Enrollment is limited to a maximum of 18 teachers and preference is given to 2 teachers from same school. Please note the application deadline is May 4. The application is at

http://www.engr.uconn.edu/joulefe llows/application/app.php We look forward to your participation in this unique program. If you have any questions, please contact: Aida Ghiaei aida@engr.uconn.edu



Interested in a Modeling Workshop? Here is a list of some nearby workshops being offered this summer.

SUNY-Buffalo State College Dates: July 20-August 7

http://physics.buffalostate.edu/sum mer-physics-academy

PHY622 – E & M

Leaders: Dan MacIsaac, Meg Helmes,

**Craig Uhrich** 

Follow this link for information Contact: Dan MacIsaac for details

Teachers College-Columbia
University, NY City
Organizer: STEMteachersNYC
Reimbursement available for lodging
<a href="http://www.eventbrite.com/e/physicsmechanics-modeling-workshop-jul-20-to-aug-7-tickets-15058057054">http://www.eventbrite.com/e/physicsmechanics-modeling-workshop-jul-20-to-aug-7-tickets-15058057054</a>

Content: mechanics
Dates: July 20 – August 7
Leaders: Paul Bianchi & Zhanna
Glazenburg, Cost: \$600 (\$300
reimbursement for those completing

workshop successfully)

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Content: chemistry I
Dates: July 20 – August 7

**Leaders: Donghong Sun & Tammy Gwara** 

Cost: \$600 (\$300 reimbursement for those completing workshop successfully) http://www.eventbrite.com/e/chemistry-modeling-workshop-jul-20-to-aug-7-

tickets-15679251062

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**Content: Modeling for middle school science** 

Dates: July 13-July 31

Leaders: Kelly Gamez Warble and Kathryn Bauer (co-leaders), with Colleen

Megowan-Romanowicz (guest leader)

Cost: \$600 (\$300 reimbursement for those completing workshop successfully)

**Details & Registration** 

http://www.eventbrite.com/e/middle-school-science-modeling-workshop-july-

13-31-2015-tickets-15058290753

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**Content: Graphical Methods for Physics Problem Solving** 

Dates: July 13-17

Leaders: Kelly O'Shea & Mike Pustie

Cost: \$199 (\$100 reimbursement for those completing workshop successfully)

Contact: Fernand Brunschwig for details Contact: info@STEMteachersNYC.org Contact: Fernand Brunschwig for details

info@STEMteachersNYC.org

Sienna College - Loudonville, NY

Dates: July 6-9

Content: Intro to modeling physics – waves Cost: \$30 to cover cost of lunch on final 3 days

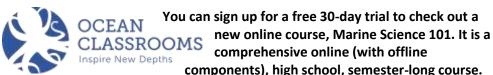
**Contact Darren Broder for details** 

dbroder@siena.edu

Mechanics, %South %Windsor %HS, %June %29C July %17; Contact David Ennis for %details

For more information, visit: www.modelinginstruction.org or

http://www.phystec.org/pd/index.cfm?set=Modeling



https://oceanclassrooms.com/learning/marine-science-101

We also have a free Ocean Literacy online course on our home page: <a href="https://oceanclassrooms.com/">https://oceanclassrooms.com/</a> as well as a free portal with live ocean data from around the globe. <a href="https://oceanclassrooms.com/sciencenodes">https://oceanclassrooms.com/sciencenodes</a> cyndi@oceanclassrooms.com

A Science Argumentation rubric has been developed by Mary Lou Smith and her colleagues. If anyone tries it out, they would really like to get some feedback! To get a copy, you can request an updated one by email from Eloise Farmer at eloisef302@gmail.com

**New** Environmental Film Series to The Connecticut River Coastal Conservation District is excited to announce a new environmental documentary film, The Elements: An Annual Environmental Film Series, to be launched this spring with partners Middlesex Community College, Wesleyan University, and The Rockfall Foundation. WATERSHED, is planned for May 4, 2015 at Chapman Hall, located at 100 Training Hill Road on the campus of Middlesex Community College in Middletown. WATERSHED, which has also received numerous awards, is Executive produced and narrated by Robert Redford. The film tells the story of threats to the "once-mighty Colorado River, now dammed and diverted and struggling to support 30 million people." It offers solutions for "meeting the competing interests of cities, agriculture, industry, recreation, wildlife and indigenous communities with rights to the waters...and the future of the American West." We hope you can join us! If you have questions, please contact us at our office, 860-346-3282. Jane L. Brawerman, Executive Director, Connecticut River Coastal Conservation District, DeKoven House Community Center - 27 Washington Street, Middletown, CT 06457, Phone (860) 346-3282, www.conservect.org/ctrivercoastal

# AN IMPORTANT LINK FOR EDUCATORS TO VISIT FOR INFORMATION ON THE STATUS OF SCIENCE STANDARDS IN CONNECTICUT:

http://www.sde.ct.gov/sde/cwp/vie w.asp?a=2683&Q=333862 In 2012, the U.S. Department of Education (USED) granted the Connecticut State Department of Education (CSDE) a three-year flexibility request from certain requirements of the Elementary and Secondary Education Act of 1965 (ESEA), also known as the "No Child Left Behind Act" The waiver provided Connecticut educators with the ability to advance state and local efforts for school improvement and utilize federal resources to support learning for all students. As part of the flexibility request, CSDE developed a state plan designed to ensure that all students are prepared to succeed in college and careers, to close achievement gaps through proven and impactful interventions in low performing schools and districts, and to support educators in reaching high professional standards and receiving meaningful development opportunities in order to ensure all students have access to effective instruction. The USED has invited the State to renew our request for an additional three years in order to sustain our progress towards these goals.

The flexibility renewal submission continues many of the major initiatives outlined in Connecticut's approved plan and seeks to strengthen and evolve others. Many of the proposed modifications have been presented and discussed at various stages with some educational stakeholders. Last month, the CSDE solicited public comment from all interested parties and persons regarding the proposed ESEA flexibility request. The Department invited feedback on the proposed renewal request which addresses the USED's three prescribed principles. Provided for information was

- an overview of Connecticut's progress made to date in the implementation of the existing, approved ESEA flexibility request;
- a listing of the USED's required components that must be addressed in the ESEA flexibility waiver renewal application; and
- an overview of the key initiatives to be continued or modified that address the required components in the renewal application.

This sets up an accountability system with many parts, including standards, the measures used to assess schools and districts, the implications for different categories of schools, and the role of teacher evaluation systems.

At a recent meeting (Mar 3), CSDE staff shared with some science educators some of the science specific issues addressed in the State proposal to the Federal Government in a request for an extension of the waiver. One of the most significant changes is in how science is "counted" in the overall measure of schools and districts. For the 2012 and 2013 School/District Performance Index scores, CAPT science, reading, writing, math were all counted equally. But for CMT Science, it was only used for tested grades (5,8), effectively making science worth 1/10, reading 3/10, writing 3/10, math 3/10.

In the future this would change, and each subject would get its own index score (based on CMT/CAPT scale scores, not performance levels as before), so that science will count the same as literacy and math.

http://www.sde.ct.gov/sde/lib/sde/pdf/esea/principle 2 performance and turnar ound esea flex renewal 031715.pdf

"Science index scores will be generated based on results from the Connecticut Mastery Test (CMT) assessments and the Connecticut Academic Performance Test (CAPT) assessments (both the standard form and Skills Checklist) in all available tested grades (i.e., 5, 8, and 10) in the district/school. This indicator weights tested subjects equally" However, Science is NOT counted in the growth part of the achievement score

- Also of note is that 9th grade passing rates count for both high schools AND 8th grade schools
- College and Career Readiness courses could include science AP or UCONN ECE courses or CTE certificates.

In Principle I of the waiver, there is some discussion on an anticipated adoption of NGSS standards, along with a mention of training , presentations, and committee work going on this spring,

Also important to note that CSDE has put forth an RFP for 2016-19

CMT/CAPT science tests which has a draft proposed timeline for transition: online testing, and a switch to NGSS standards testing by 2019.(33% in 2017, 66% in 2018, 100% in 2019). This timeline also shows high school science testing shifting to 11th grade in 2019. See pg.4 and the timeline on pg 27 of the RFP at

http://www.sde.ct.gov/sde/lib/sde/pdf/rfp/15sde0001rfp\_cmt\_capt\_science.pdf (Thanks to Rich Therrien for the above information)

What Is Science Matters? Science Matters is an initiative by the National Science Teachers Association (NSTA) to bring content, news, and information that supports quality science education to parents and teachers nationwide. Science Matters builds on the success of the Building a Presence for Science program, first launched in 1997 as an e-networking initiative to assist teachers of science with professional development opportunities. Building a Presence for Science—now Science Matters—reaches readers in 34 states and the District of Columbia. Why does Science Matter? Science is critical to understanding the world around us. Most Americans feel that they received a good education and that their children will as well. Unfortunately, not many are aware that international tests show that American students are simply not performing well in science when compared to students in other countries. Many students (and their parents!) believe that science is irrelevant to their lives. Innovation leads to new products and processes that sustain our economy, and this innovation depends on a solid knowledge base in science, math, and engineering. All jobs of the future will require a basic understanding of math and science. The most recent ten year employment projections by the U.S. Labor Department show that of the 20 fastest growing occupations projected for 2014, 15 of them require significant mathematics or science preparation to successfully compete for a job. This is why Science Matters. Quality learning experiences in the sciences—starting at an early age—are critical to science literacy and our future workforce. Feel free to publish this information in school newsletters and bulletins, and share it with other parents, teachers, and administrators.