



From the President ...

Dear SECO Members,

Hello August! While I am not sure where summer went, welcome to the back to school preparation that always occurs with the arrival of this month. I hope this newsletter contains helpful information for you to use as you transition out of summer mode and back into school mode.

As we begin thinking about and planning for fall, please keep an eye out for eblasts and online updates regarding local professional development. District Directors will be facilitating sessions to introduce the Model Curriculum and using it to develop lesson plans, project based learning ideas, and locate resources. Each SECO district will hold at least one session in September, October or early November. Members and nonmembers are welcome to attend sessions in their own district, or in any other district.

Our Members Only section of the website is now up and awaiting your comments and input. We look forward to being able to host discussions and facilitate the sharing of information between colleagues. We anticipate this being a great location to share teaching ideas and strategies, find life-lines and ways to troubleshoot issues, and to locate resources and professional development opportunities. If there are additional forums or features that you would find helpful, please let us know and we will try to accommodate those requests.

Another service SECO is committed to offering is providing a highly trained cadre of facilitators who are able to visit districts to offer in house professional development in several areas:

- creating safe lab practices, protecting students and teachers from injury and providing teachers with awareness of the legal liability issues inherent in teaching science
- using the new state standards and Model Curriculum
- FREE resources and curriculum to integrate science, math and reading at the elementary levels
- FREE curriculum for high school students which addresses science content, capstone projects and service learning

Please contact me if you would like more information on any of these services.

I hope you have a wonderful start to the school year!

Sincerely,

Tracy Cindric

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The SECO Communiqué is for science educators -- filled with fun science resources, science education news, teaching tips, and more. If you've got an idea for something you'd like to see in a Communiqué, we'd love to hear from you! Send your ideas to SECOonline00@gmail.com.

F**R****O****M****O****D****E**

The Revised Science Education Standards and Model Curriculum for high school have been through the editing process for publication and have been posted on Ohio Department of Education Website. The PreK-8 final document is currently being edited for publication and will be posted soon. The New Science Education Standards and Model Curriculum contain valuable information to help in your planning for next year. In addition to the podcast that introduces the model curriculum and how it is to be used, there is a 7th grade example to help teachers become familiar with how to use the new document to develop rich classroom experiences in science:

<http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEDetail.aspx?page=3&TopicRelationID=1705&ContentID=76585&Content=105424>.

It is important to understand that the strategies, resources, and classroom examples in the “Visions into Practice” section of the Model Curriculum are NOT mandated or mandatory. These are all idea starters for teachers to begin to create their own lessons and projects. They show different ways to use real data and real investigations to teach the content. The cognitive levels represented by the Expectations for Learning focus on the depth of knowledge for the content. The Model Curriculum is a dynamic document that will continue to be revised and updated with classroom examples and strategies.

Model Curriculum Feature Content

Mass and Weight

There is much written in the research literature about when and how to use the terms “mass” and “weight”. While mass is the scientifically correct term to use in the context of science, the [NAEP 2009 Science Framework](#) (page 27) recommends using the more familiar term “weight” with elementary students with the distinction between mass and weight being introduced at the middle school level. In Ohio, students will not be assessed on the differences between mass and weight until Grade 6.

National Science Education Framework

ODE has received questions about whether the Ohio’s revised content standards and model curriculum for science will change because of the development of national science content standards. Both of these documents were completed using national and international research and currently available national documents.

The ODE Science staff has completed a preliminary review of the National Science Framework that was released on July 19th by the National Academy of Sciences. As anticipated the initial comparison of the core ideas and practices that students should learn for each grade-band (K-2, 3-5, 6-8, and 9-12) align very well with Ohio’s Revised Science Standards and Model Curriculum. This alignment includes the emphases on learning progressions and the integration of scientific, engineering and technological processes with content. (continued on the next page)

From ODE con't

Staff will be conducting a more detailed comparative analysis and will tabulate the results. This information will be posted on the ODE Science page to assist teachers and districts. For clarity, critical differences or changes will be noted and/or highlighted in Ohio's Revised Science Standards and Model Curriculum document.

The National Framework is just the beginning of the development of the Next Generation Science Standards (see <http://www.achieve.org/next-generation-science-standards>). Ohio will continue to support this development work and to inform the field of ongoing opportunities to provide feedback and advice to the national effort.

Cathy Holmes and Kim Mullen

From Ohio Technology and Engineers Educators Association

Grades 3-6 Contest: A FREE boat design contest that will be both fun and easy will be offered to students in these grades in any school, scout troop, 4-H group or after-school group in Ohio. Free training and materials for first 35 adult supervisors and free substitute pay for teachers. Training will be on Friday, September 16, 2011 at the Ohio State University 4-H Center, 2201 Fred Taylor Dr. Columbus, OH. Finals will be held at the OTEEA Fall Conference on Saturday October 22, 2011 at the London (OH) High School.

Call for Nominations: The OTEEA is looking for nominations for Ohio Elementary Program of the Year and Ohio Elementary Teacher of the Year. Winners will be honored at the International Technology and Engineering Educators Association to be held in Columbus in 2013. If you would like to nominate a school or teacher, please contact Bob before school ends for the year. You may nominate yourself and your own program; no program or grade level is too small or insignificant. Let's reward people and program for their hard work and for sharing their great ideas!

Showcase Student Work at Conference: Do you have samples of students' preK-6 STEM work? Here is a chance to show off your students' work with a wider audience at OTEEA conference on Saturday October 22, 2011 at the London (OH) High School. Please keep samples of your students' best work, including their documentation, at the end of the year. If you have work you'd like to share, please contact me. You will get the samples back at the end of the conference.

Bob Claymier, technologyiselementary@yahoo.com



G R A N T S

Toshiba America Foundation Science and Math Improvement Grants

Toshiba America Foundation (TAF) awards grants for activities and programs that improve classroom teaching and learning in science and mathematics for students in grades K–12. U.S. public and nonprofit private schools, as well as universities collaborating with K–12 classroom teachers, may apply. Projects should provide direct benefits to students and are usually designed by individual teachers or small teams of teachers for their own students.

Grants for grades 6–12 of up to \$5,000 are awarded each month. Applications are accepted year round. Grants for grades 6–12 of more than \$5,000 are awarded twice each year. Applications for these larger grants are due February 1 and August 2. Requests should not exceed \$25,000. Elementary school teachers may apply for \$1,000 mini-grants from TAF in the fall semester. The two-page application forms are due on October 1 every year.

Teachers are encouraged to call TAF at 212-596-0620 or e-mail foundation@tai.toshiba.com to discuss their project ideas and the eligibility requirements before applying.

NEA Foundation-Nickelodeon Big Help Grants

The NEA Foundation-Nickelodeon Big Help Grants are available in the form of Student Achievement grants to K-8 public school educators. The Big Help Grants program is dedicated to the development and implementation of ideas, techniques, and approaches for addressing four key concerns: environmental awareness, health and wellness, students' right to a quality public education, and active community involvement.

Proposals for work resulting in low-income and minority student success with honors, advanced placement, or other challenging curricula are particularly encouraged. Practicing U.S. public school teachers, public school education support professionals, and faculty and staff members at public institutions of higher education may apply. The maximum grant amount is \$5,000. Deadlines are February 1, June 1, and October 15 each year.

The Science Education Council of Ohio (SECO) Membership Teaching

Grant is designed to provide support in the teaching of science. It is available to Pre-K to Grade 12 teachers under the assumption they will share their grant experiences by presenting a descriptive session at the SECO Professional Development Conference within two years of receiving the grant. Receipt of a SECO Membership Teaching Grant does require membership in SECO. Grants are awarded up to the amount of \$500. A teacher may only receive one Membership Teaching Grant per year. One or more teacher may apply for the grant, with one teacher designated as the contact teacher. A SECO representative may follow the grant to determine its relevancy in enhancing science education. The number of grants provided each year is determined by the SECO Board of Directors. Go to www.seconline.org under "Awards."

Ohio Department of Agriculture (ODA)

Citizen Volunteer Pest Survey for Asian Longhorned Beetle

America's trees are under attack. Help us track down the killer beetles.

The Asian Longhorned Beetle (ALB) has destroyed tens of thousands of hardwood trees in the United States. USDA, ODA, and the Science Education Council of Ohio are partnering to ask members of the Science Education Council of Ohio to participate in the 2011 Citizen Volunteer Pest Survey for ALB.

ALB most likely arrived in the United States inside wood packaging material from Asia. Since its discovery in Brooklyn, New York, in 1996, ALB infestations have been reported in five states. This includes the June 2011 detection and identification of ALB beetle in Bethel, Ohio, located 30 miles southeast of Cincinnati. There could be other undetected infestations in Ohio and the rest of the United States as well. Live ALB adults have been found in Ohio warehouses with imported wood packaging material. Live insects have also been detected in wood packaging material at US ports of entry since regulations requiring the treatment of imported wood packaging material were implemented. Our trees are at risk because a large amount of wood packaging material enters Ohio and some of it may contain undetected ALB.

Early detection reduces damage from ALB

Help detect ALB. Start searching today.

You can help stop the spread of ALB by searching your community for it and reporting your findings. Just follow these simple steps:

1. Review the fact sheet at <http://www.beetledetectives.com/ALB-BeetleDetectives.pdf> to become familiar with the ALB as well as signs of damage. Take the fact sheet for reference when you search.
2. Locate 10 or more host trees in your search area. The ALB lives in hardwood trees, particularly maple, birch, horse chestnut, willow and elm. Carefully examine each tree for signs of infestation. Take notes on the following: Area searched, Types of trees examined, Descriptions of any beetles or signs of infestation detected. It is also helpful to take pictures of the insects or damage to your trees. If you observe ALB or signs of ALB infestation, contact the Ohio USDA APHIS State Plant Health Director's office at (614) 322-4700.
3. Report both positive **and** negative sightings online at BeetleDetectives.com. Reporting that ALB was not found is important because it documents that ALB was looked for and not found in your community. Make sure you select your organization's name, the Science Education Council of Ohio, when you report your findings.

Help spread the word about this survey and the threat of ALB.

If you know other people who would like to help protect our trees, forward this email to them and ask them to report their findings. If they are not affiliated with any of the Ohio volunteer groups listed on BeetleDetectives.com, they may enter their information as an individual. Thank you in advance for helping protect America's trees!

John Michael Burch, State Plant Health Director, 614-322-4700



**Need
Your
Help**

President Honored Outstanding Math and Science Teachers in Late April—Ohio Winner—Erin King

President Obama today named 85 mathematics and science teachers as recipients of the prestigious Presidential Award for Excellence in Mathematics and Science Teaching. The educators will receive their awards in Washington, D.C. later this year.

The Presidential Award for Excellence in Mathematics and Science Teaching is awarded annually to outstanding K-12 science and mathematics teachers from across the country. The winners are selected by a panel of distinguished scientists, mathematicians, and educators following an initial selection process done at the state level. Each year the award alternates between teachers teaching kindergarten through 6th grade and those teaching 7th through 12th grades. The 2010 awardees named today teach kindergarten through 6th grade.

Winners of this Presidential honor receive a \$10,000 award from the National Science Foundation to be used at their discretion. They also receive an expense-paid trip to Washington, D.C., for an awards ceremony and several days of educational and celebratory events, including visits with members of Congress and the Administration.

This year's **Ohio winner, Erin Renee King**, hails from Southwest Ohio. She has taught math and science concepts to gifted students in Appalachian Ohio for over 12 years. She taught students in grades 3-8 at Felicity-Franklin Local Schools for 6 years and students in grades 5-8 at Adams County Schools for 6 years.

In order to create opportunities for the gifted students in this remote area, Renee created *Virtual TAG* a program that blends on-line courses with face-to-face lessons. The program was a collaborative effort between three school districts. This virtual program differentiated math and science instruction for gifted students. Each course ends in a culminating event such as Chemistry Day or a Mission to the Moon at the Challenger Center. To financially support the program, Renee has written several grants to purchase laptop computers, science materials, and a Smart Board.

Renee has presented sessions on virtual learning at local, state, and national conferences and has coauthored the book *Developing Units for Virtual Learning Environments*.

Renee coordinates the Annual Research Showcase and Project Citizen. Renee has coordinated trips to Costa Rica and New England and led the science club.



PROFESSIONAL DEVELOPMENT OPPORTUNITIES

19th Annual Teachers, Industry, and Environment (TIE) Conference

OCTOBER 12-14, 2011

Celebrating the International Year of Chemistry 2011

This year's conference will be held at the Marriott Courtyard in Columbus, Ohio. **There is no charge to attend.** Last year, a group of nearly sixty educators participated in the intensive, hands-on program focused on creative approaches to teaching principles of physics, chemistry, and the life sciences to their students. The conference opens with an overview and behind the scenes tour of ISP Columbus, a state-of-the-art custom manufacturing facility. Over the next two days, scientists from industry, The Carnegie Science Center, Science Education for Science Advancement (SESA), universities, and Ohio's environmental agency will demonstrate dramatic experiments that teachers can easily duplicate in their own classrooms. Plenty of hands-on activities using toys and other household items to teach the principles of chemistry, a session designed to assist teachers with teaching density, and a demonstration of the effects of sediment pollution in streams, comparing the turbidity of muddy and clear water, and ways to prevent soil erosion are just some of the highlights. Teachers will also attend a joint networking luncheon with the Ohio Chemistry Technology Council's Board of Directors. The program has been approved by Ashland University for graduate credit.

For more information visit www.ohiochemistry.org or contact Chris Materni at cmaterni@ohiochemistry.org.

New Professional Development Resources From eTech Ohio

Many teachers have said that a flexible, cost-effective, and dynamic professional development solution was a top priority--and we listened! **eTech Ohio** is pleased to announce that we are expanding our online professional development resources by making Atomic Learning available to public school districts and community schools at no cost (as funds remain available). This initiative is the newest in a collection of no-cost and low-cost face-to-face, blended, and online professional development options.

Don't delay in applying for these high-quality online professional development tools! eTech Ohio is committed to accelerating and advancing student achievement through the application of 21st century skills, and that starts with creating access to top-notch training resources for educators. **Application is available through October 1, 2011.**

For more information, contact Carla Dreiling at cdreiling@atomiclearning.com.

To apply for fully-subsidized Atomic Learning licenses, visit www.etech.ohio.gov/online-learning/atomic.

NASA Glenn Live Viewing of TEDxNASA

NASA Glenn's Developing Professionals Club invites you to join us at 5pm on August 17 for a live viewing of the TEDxNASA@SiliconValley conference with the theme "Extreme Green".

Interested individuals must register at <http://evt.grc.nasa.gov/tedxNASA/> by August 13.



Air Show Deck Party - Labor Day weekend September 3 - 5

Get the best seats in the house when you view the 2011 **Cleveland National Air Show** from the decks of the Mather Steamship. Food and

drinks sold on board. Bring a chair and make a day of it. Space is limited. Reserve soon. **Call 216-621-2400** (Monday - Friday, 9 am - 5:30 pm.) \$15 (\$12 members.)

EARTH SCIENCE WEEK 2011 CONTEST THEMES ANNOUNCED

The **American Geological Institute (AGI)** is sponsoring three national contests as part of Earth Science Week 2011, celebrating the theme of "**Our Ever-Changing Earth, October 9-15.**"

Students, geologists, and the general public are encouraged to enter this year's Earth Science Week photography contest, "A World of Change in My Community." Use your camera to capture the evidence of the long- or short-term changes taking place around our planet and even in your own neighborhood.

Students in grades K-5 are eligible to enter the visual arts contest, "Picturing our Ever-Changing Earth." Create a two-dimensional piece of artwork to illustrate the various ways air, water, land, and living things change over time.

The essay contest, "How Change Shapes our Planet," is open to any student in grades 6-9. In a brief essay, explain how interactions between Earth's systems can change our world over time. Discuss the processes used to study these change and how human life can be affected by geologic transformation.

For more information on these annual contests, including guidelines, deadlines, and information on how to correctly submit your entry, please visit <http://www.earthsciweek.org/contests/>.

Geoff Camphire gac@agiweb.org

Mark it on your calendars now! Earn professional development hours with staff and resources from top local and national STE M education providers including **Dayton Regional STE M Center, Boonshoft Museum, NOAA and NOVA**. Exciting lessons, new ideas, and training will further equip you for inquiry and STE M education pedagogy on the grade track that best fits your needs. Start the day with a continental breakfast and enjoy dynamic guest speakers, curriculum, door prizes, lunch and a behind-the-scenes look at the Boonshoft Museum of Discovery. Cost: \$35

Questions? Please contact either Robyn Sweet at 937.275.7431, ext. 154, rsweet@boonshoftmuseum.org or Teri Willhoite 937.225.4603 ext. 3018, teri.willhoite@mcsc.org



Apply for a GreenWorks! grant!

GreenWorks! is Project Learning Tree's service-learning, community action program that partners PLT educators, students, and communities in environmental neighborhood improvement projects. *GreenWorks!* blends service activities with the academic curriculum and addresses real community needs as students "learn by doing." Since 1992, PLT has distributed more than \$800,000 to fund nearly 1,000 environmental projects in communities across the country.

In 2011, PLT will award grants to schools and youth organizations across the country for environmental neighborhood improvement projects that involve youth with their community. Grants up to \$1,000 are available. **Proposals are due on September 30th.**

The grant proposal will be posted to the PLT website in May. Funds will be distributed to awarded projects in December for the completion of environmental service-learning projects throughout the 2012 calendar year.

For some ideas, check out some of the [GreenWorks! projects currently underway](#) across the country, and read [stories from educators](#) along with their tips for implementing a successful service-learning project.

Jackie Stallard

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