

NEWS

Board of Education Approves Local Test Guidelines

The state Board of Education approved [guidelines for locally developed assessments](#) that will replace five discontinued Standards of Learning (SOL) tests this year. The legislation also requires school divisions to certify annually that they have provided instruction and administered an alternative assessment, consistent with Board of Education guidelines, to students in grades and subject areas that no longer have a corresponding SOL test. The board's guidelines leave the type of assessments developed or selected to local school boards. The possibilities include traditional tests, performance- and project-based assessments, formative or summative assessments, and integrated tests that cover content from more than one subject area. For more information, visit http://www.doe.virginia.gov/news/news_releases/2014/09_sept18.shtml. To watch the Board of Education meeting, visit <http://www.doe.virginia.gov/boe/meetings/index.shtml#>.

2014-2015 Accreditation Ratings Reflect Higher Standards for Students and Schools

[Read the full press release](#)

The percentage of schools meeting state accreditation standards declined for a second consecutive year as a consequence of the growing impact of more rigorous reading, writing, science and mathematics Standards of Learning (SOL) tests introduced since 2011, the Virginia Department of Education (VDOE) announced today.

Sixty-eight percent, or 1,246, of Virginia's 1,827 public schools are rated as Fully Accredited for 2014-2015 compared with 77 percent for 2013-2014, and 93 percent for 2012-2013. The number of schools Accredited with Warning rose to 545, an increase from last year's total of 393. The drop in accreditation came despite statewide improvements in mathematics performance and hundreds of schools that also saw incremental gains in reading, writing and science.

2014 VAST PDI

The 2014 VAST PDI will be held in Roanoke, VA this year on November 19-22. This year's theme is **Sparking Innovation: Enhancing Student Learning**. Teachers will have access to nationally known experts on various topics ranging from **Differentiation with Carol Tomlinson** to Flipping the Science Classroom with author Jon Bergman along with many others! Make plans to come early on Thursday to the pre-conference and spend a day learning how to differentiate your science curriculum with Carol Tomlinson, nationally known expert and author! There will also be extended learning opportunities through short courses that will be entirely **free** those who register for the conference! For more information on the 2014 VAST PDI, please visit www.vast.org and click on the Annual PDI tab in the top navigation bar.

Virginia's First Annual Science Festival!

The Virginia Science Festival brings together the worlds of science, technology, engineering, art, and mathematics. Organized by the [Science Museum of Western Virginia](#) and [Virginia Tech](#), the first-ever Virginia Science Festival begins Oct. 4, 2014, and concludes Oct. 11, 2014. Other regions of the Commonwealth are invited to host events under the [Virginia Science Festival](#) banner.

The honorary co-chairmen of the event are U.S. Senators Mark Warner and Tim Kaine.

At the Virginia Science Festival, thousands of families will come face-to-face with amazing research and technical achievements from Virginia's educational, non-profit and for-profit institutions, and enjoy hands-on experiences designed to inspire all ages about the wonders of science. For more information, visit <http://virginiasciencefestival.org/>.



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Performance Assessment Links in Science

In reaction to the Proposed Local Assessment Guidelines, several schools and school divisions have contacted our office to ask about sample performance assessments. The Performance Assessment Links in Science (PALS) is an on-line, 1996 National Science Education Standards (NSES)-based, resource bank of science performance assessment tasks indexed via the NSES and various other [standards frameworks](#). The Office of Science and Health Education is not suggesting you use these assessments; however, these are one of several resources that might serve as an example of performance assessments you can consider as you are developing your performance assessments or other alternative assessments.

Virginia Science Activities, Models, and Simulation

The [Virginia Science Activities, Models and Simulations](#) project engages students in middle and high school in practices that are essential for learning science through inquiry. The activities involve asking questions or defining problems, using models or sensors, collecting data, interpreting results, using mathematics, technology and computational thinking, constructing explanations and designing solutions based on evidence.

The activities, models and simulations, were developed by teachers participating in the [Innovative Technology in Science Inquiry Scale Up \(ITSI-SU\)](#) project funded by the National Science Foundation.

The SAMS project is a partnership between VDOE, Longwood University's Institute for Teaching Technology through Innovative Practices (ITTIP) and the Concord Consortium.

Hot Jobs: Advanced Manufacturing's High Tech Career Paths

Here is an opportunity to explore science-related careers and interests (Goal 9 of the Science SOL) using Science Matters' Hot Jobs resources.

Today's high tech work environments are bright, relatively quiet factories that are almost as sterile as a medical lab. In factories like the [Rolls-Royce Crosspointe](#) factory in Prince George, Virginia, Chemists, Engineers, Welders, Information Technology Specialists and Logisticians work together to produce and deliver products of the highest quality. The **Science Matters video** provides a look at **diverse pathways to a career in Advanced Manufacturing**. You can go straight to the article and video [here](#)." You will also find links to the article on both [WCVE's](#) home page and [Science Matters home page](#).

Celebrate Earth Science Week: Earth's Connected Systems

Join NASA for an exploration of our dynamic Earth! This year, Earth Science Week (Oct. 12-18) celebrates "Earth's Connected Systems" – from land to sea, ice to sky, and everything living in between, NASA missions study Earth's system and help us to understand the interconnectivity among its components. Our 2014 website covers NASA Earth missions and how scientists study our home planet, educational resources about Earth's system, videos, links to mission science, and more. Visit the NASA schedule of upcoming events for educators and the public.

Want the latest information on NASA Earth Science Week activities? Follow us on Twitter (@NASAESW) or Facebook (<http://www.facebook.com/NASAESW>). Visit us to see how you can participate in our Citizen Scientist Rover Project, which will be featured during Earth Science Week.

Activities and Lesson Plans that can be used to support Earth Science Week:

- a) **MY NASA DATA Lessons:** <http://mynasadata.larc.nasa.gov/lesson-plans/> (Lesson plans using real-world data collected from the various NASA Missions.)
- b) **GLOBE Digital Earth System Poster:** <http://mynasadata.larc.nasa.gov/globe/> (Animations using MY NASA DATA to show data for each of the following variables: insolation, surface temperature, cloud fraction, precipitation, aerosols, and biosphere from the year 2005 through 2013.)

- c) S'COOL Lesson Plans: <http://scool.larc.nasa.gov/cgi-bin/lessonplan.cgi> (Lessons designed to provide students with development of observation skills while gaining an understanding of the different variables associated with weather.)

Kids Know What Makes Energy Sense – Grades 6-8

Under the guidance of the State Corporation Commission, the Commonwealth's energy efficiency education program, [Virginia Energy Sense](#), has created a new curriculum unit for grades 6-8 to teach students energy-saving habits they can apply at home and school while improving science, math and language arts skills. Virginia Energy Sense also developed the [Value Your Power](#) curriculum unit for grades 3-5.

The [new grade 6-8 activities](#) include:

- A four-part math lesson for students to assess the cost and energy consumed by classroom electronics
- An activity for students to research and present their findings on the electrical energy sources used in Virginia
- A language arts-based lesson to challenge students to create their own public awareness campaign to help educate their community about the importance of saving energy
- A printable wall poster students can use to understand areas in their home that consume energy

Materials can be downloaded in the [At School](#) section of [VirginiaEnergySense.org](#). To request mailed hard copies, contact feedback@virginiaenergysense.org.



Celebrating Biodiversity, Big and Small – HHMI BioInteractive News

Kick off the new academic year with some amazing new resources that explore biodiversity on our planet and how to sustain the environment for future generations. Many of them were produced through our new partnership with Gorongosa National Park in Mozambique. To start things off, the [Image of the Week](#) highlights some of the smallest inhabitants of the park. These little weaver ants are hard at work putting food on the table! Click on the image for more information.



Teacher Opportunities

Expediting Comprehension for English Language Learners (ExC-ELL) Institutes

VDOE is offering *ExC-ELL 101 Institute* and *ExC-ELL 102: Train-the-Trainer Institute* for educators of English Language Learners (ELLs). These two-day professional development Institutes will be held in October in Richmond and Roanoke. For details, see [Superintendent's Memo 226-14](#).

Bite of Science

This exciting, cost free dinner event brings together 25 high school STEM teachers with scientists and/or engineers from industry, academia, or government. Teachers have the opportunity to learn about cutting edge research and innovation, find out how to connect the research to the high school classroom, and discover ways to inspire and guide their students toward academic opportunities and STEM careers.

October 1st, Richmond @ Science Museum of Virginia, 5:00-8:00pm
October 2nd, Norfolk @ Norfolk State University, 5:00-8:00pm
October 8th, Fairfax @ George Mason University, 5:00-8:00pm

Session speaker information and links to the online registration form can be found on our website at <https://www.cee.org/bite-science>.

Chesapeake Bay Restoration Fund Advisory Committee Grants

Applications are being accepted for monies from sale of Chesapeake Bay license plates until Oct. 1; \$347,740 available. The Chesapeake Bay Restoration Advisory Committee is accepting grant applications to conduct Chesapeake Bay-related education and restoration activities. The grants are funded with monies from the sale of the special Chesapeake Bay license plate "Friend of the Chesapeake." This year **\$347,740** in grant monies will be awarded to eligible applicants. During this past year, 49 grantees received \$214,750 in grant funds. Since 1996, nearly \$6.8 million has been awarded as a result of the sale of the "Bay plate." The deadline for submitting a proposal for 2015 support grants is **October 1, 2014**.

Grant funds will be awarded in May-June 2015. To be eligible for receiving a grant, applicants should submit proposals emphasizing environmental education or restoration and conservation of the Chesapeake Bay. Projects focusing on environmental education should increase public awareness and knowledge about the Bay, and projects of a restoration and conservation nature should be action oriented. Grants are awarded for one year, except in special circumstances. Grant funds may not be used to supplant existing state or local general fund appropriations. Visit <http://dls.virginia.gov/commissions/cbr.htm> for more information.

Coming Soon Autumn 2014: Presidential Innovation Award for Environmental Educators

The Presidential Innovation Award for Environmental Educators recognizes outstanding kindergarten through grade 12 teachers who employ innovative approaches to environmental education and use the environment as a context for learning for their students. Up to two teachers from each of EPA's 10 regions, from different states, will be selected to receive this award. The White House Council on Environmental Quality (CEQ), in partnership with the U.S. Environmental Protection Agency (EPA) administers this award to nationally honor, support and encourage educators who incorporate environmental education in their classrooms & teaching methods. Applications for 2014- 2015 awards will open in autumn 2014. <http://www2.epa.gov/education/presidential-innovation-award-environmental-educators>

Sally Ride EarthKAM

Sally Ride EarthKAM has secured two missions for this Fall. The first mission will be from October 21-25, 2014 and the second mission will be from November 18-21, 2014. To sign up, please visit their homepage at: <http://earthkam.ucsd.edu/>.

Log in using your Teacher Account and click on the "Mission Sign Up" button. Please feel free to invite your fellow educators and their students to participate!

For new participants, please click on "Create an account" button on the right side of the home page to start the registration process.

Shell Science Teaching Award

The National Science Teachers Association, with support from Shell Oil Company, is inviting nominations for the Shell Science Teaching Award, an annual program that recognizes an outstanding K-12 classroom teacher who has had a positive impact on his/her students, school, and community through exemplary science teaching. The award includes a \$10,000 cash prize and an all-expense paid trip to attend NSTA's national conference. Two finalists will also receive an all-expense-paid trip to the conference. Nominees must be K-12 classroom teachers whose responsibilities include teaching science. In addition, nominees must have a minimum of eight years of experience (not including the current school year) as a teacher of science, and must teach in a private or public school in the United States, a U.S. territory, a Department of Defense school, or Canada.

Visit the NSTA website at: <http://www.nsta.org/about/awards.aspx#distservice> for complete program guidelines, information about previous winners, an informational webinar, and nomination instructions.

VASS STEM Conference

The Virginia Association of School Superintendents (VASS) is providing a workshop entitled, "Leading the Way in STEM," which will be presented by Cindy Moss at the Hampton Embassy Suites and Convention Center on **October 7**. The workshop is for teachers and administrators who are interested in developing a STEM initiative or improving their existing program. Cindy Moss is the Director of Global STEM Education at Discovery Education, will provide participants with data for implementing a STEM strategy, show examples of success and discuss next steps. Several Virginia school divisions with exemplary STEM programs will also be featured in the afternoon break-out sessions.

<http://vass.schoolwires.net//site/Default.aspx?PageID=125>

Student Opportunities

eCYBERMISSION

eCYBERMISSION is one of several science, technology, engineering and mathematics (STEM) initiatives offered by the Army Educational Outreach Program (AEOP). The U.S. Army is committed to answering the nation's need for increased national STEM literacy and expanding STEM education opportunities across the country to open doors to new career paths for America's students that lead to a brighter tomorrow. Visit <http://www.ecybermission.com/>.

December, 2014 - President's Environmental Youth Awards (PEYA)

The PEYA program promotes awareness of our nation's natural resources and encourages positive community involvement. Since 1971, the President of the United States has joined with EPA to recognize young people across the U.S. for protecting our nation's air, water, land, and ecology. It is one of the most important ways EPA and the Administration demonstrate commitment to environmental stewardship efforts created and conducted by our nation's youth. The PEYA program includes two components: a regional certificate of special recognition and a national award competition. All qualified applicants each year receive a certificate of special recognition from their EPA regional office. In addition, one outstanding project from each region is selected to receive a national award plaque. Projects are developed by young individuals, school classes (K-12), summer camps, and youth organizations to promote environmental stewardship. Thousands of young people from all 50 states and the U.S. territories have submitted projects to EPA for consideration. <http://www2.epa.gov/education/presidents-environmental-youth-award>

Highlighted Superintendent's Memos

- **MEMO #211-14**
[Science, Technology, Engineering, and Mathematics \(STEM\) Teacher Recruitment and Retention Incentive Awards](#)
- **MEMO #222-14**
[The 2014-2015 Science through an Interdisciplinary Approach \(SIA\) Institutes for Elementary Teachers](#) 
- **MEMO #233-14**
[Using Classroom-Level Data to Improve the Achievement of English Language Learners \(ELLs\)](#)
- **MEMO #232-14**
[WIDA 101: Introduction to English Language Development \(ELD\) Standards and Assessments Workshop](#)
- **MEMO #231-14**
[WIDA Academy: Creating Language-Focused College- and Career- Ready Units of Study for English Language Learners](#)
- **MEMO #226-14**
[Expediting Comprehension for English Language Learners \(ExC-ELL\) Institutes](#)
- **MEMO 250-14**
[Virginia Association of School Superintendents \(VASS\) Workshops on "Leading the Way in STEM"](#)

Articles

[The Development of In-Service Science Teachers' Pedagogical Content Knowledge Related to Interdisciplinary Science Inquiry](#) Erica L. Smith, Xiufeng Liu, The UB/BPS Interdisciplinary Science and Engineering Partnership, NARST,

2014.

[Examining Science Teachers' Development of Interdisciplinary Science Inquiry Pedagogical Knowledge and Practices](#), Bhawna Chowdhary, Xiufeng Liu, Erica Smith, Brooke Grant, The UB/BPS Interdisciplinary Science and Engineering Partnership, Journal of Science Teacher Education, August 2014.

As always, please contact one of us if you have questions.

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