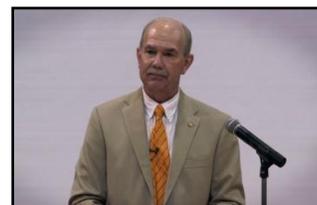


## NEWS

### [State Superintendent's 2014 Convocation Remarks](#)

View excerpts of Dr. Staples' August 11, 2014, back-to-school remarks to educators in Lunenburg County. Click on Dr. Staples' photo to view a short video that reminds schools and school divisions that Science and History must still be taught and assessed even though the Grade 3 Science SOL test (and other SOL tests) will not be administered. Other short videos related to accountability, authentic assessments, best practices, etc. are included.



### [The 2014-2015 Science through an Interdisciplinary Approach \(SIA\) Institutes for Elementary Teachers](#)

The Virginia Department of Education (VDOE), Office of Science and Health Education, is pleased to announce the 2014-2015 Science through an Interdisciplinary Approach (SIA) Institutes. The SIA Institutes program consists of three separate institutes, each with a different focus. The Institutes are designed for elementary teachers and will offer learning experiences that support the implementation of the 2010 *Science Standards of Learning* (SOL) using an interdisciplinary approach that also incorporates connections to mathematics, language arts, social studies, and the arts. Schools not meeting the state benchmark for accreditation in science are encouraged to have a team of teachers apply. More information regarding the SIA Institutes may be found in [Superintendent's Memo No. 222-14](#).

### [Virginia Students Outperform Nation on ACT](#)

Virginia students outperformed their peers nationwide by significant margins on the ACT this year as the number of the commonwealth's high school seniors taking the college-admissions examination continued to grow.

The commonwealth's public school students achieved a composite score of 22.6, compared with 21.0 for graduates nationwide, and public school students accounted for 24 of the 26 Virginia graduates who achieved perfect scores on the test. ACT results are reported on a

Virginia Public School Average ACT Scores										
Year	English		Mathematics		Reading		Science		Composite	
	VA	US	VA	US	VA	US	VA	US	VA	US
2010	21.7	20.5	22.0	21.0	22.3	21.3	21.9	20.9	22.1	21.0
2011	21.8	20.6	22.1	21.1	22.5	21.3	21.8	20.9	22.2	21.1
2012	21.8	20.5	22.2	21.1	22.5	21.3	21.8	20.9	22.2	21.1
2013	22.0	20.2	22.4	20.9	22.9	21.1	22.1	20.7	22.4	20.9
2014	22.0	20.3	22.5	20.9	23.1	21.3	22.3	20.8	22.6	21.0

scale of 1 to 36, with 36 being the highest possible score. For more information, visit [http://www.doe.virginia.gov/news/news\\_releases/2014/08\\_aug20.shtml](http://www.doe.virginia.gov/news/news_releases/2014/08_aug20.shtml)

## Teacher Resources

### [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.

## ***Earth Science Week: Find New Resources at National Fossil Day Online***

To help you prepare for the fifth annual National Fossil Day (October 15) during Earth Science Week 2014, the National Park Service offers a website full of educational resources and information designed specifically for students and teachers (<http://nature.nps.gov/geology/nationalfossilday/>).

On the site's NPS Fossil Park Highlights page, for example, you'll find lesson plans developed to reflect select state standards, fossil trading cards, videos about pygmy mammoths, special brochures, a virtual museum exhibit on dinosaurs, and more ([http://nature.nps.gov/geology/nationalfossilday/park\\_highlights.cfm](http://nature.nps.gov/geology/nationalfossilday/park_highlights.cfm)).

Also see the site's Useful Resources and Links page, which features a trove of educator resources (<http://nature.nps.gov/geology/nationalfossilday/resources.cfm>).

## ***Earth Science Week 2014 - Contest Extends Globally***

Earth Science Week has expanded eligibility for its annual photography contest to allow international members of all AGI Member Societies to participate. Previously open only to residents of the United States and members of AGI's three International Associate Societies, the photo contest has always been a major part of Earth Science Week, which this year is being celebrated October 12-18.

International members of AGI Member Societies are encouraged to enter this year's Earth Science Week photography contest, "Connections in My Community." These individuals are invited to use a camera to show how earth systems interact in their communities. Learn more at <http://www.earthsciweek.org/contests/photography/index.html>.

## ***eMediaVA***

eMediaVA is Virginia's premier statewide digital media distribution system featuring the best purpose-built educational content available. Brought to you by Virginia's Public Media Stations\* and PBS, eMediaVA is constantly evolving to better meet the needs of Virginia's teachers and students. What's even better, eMediaVA is free for Virginia's teachers and students! Please visit the [About Us](#) page to get connected.

## **Teacher Opportunities**

### ***2014 Virginia Association of Biology Teachers Annual Meeting – September 12-14, 2014***

Spend the weekend or the day. Experience biology, environmental science, polar science, monarch & bumblebee studies and much more in the beautiful surroundings of the 700-acre UVA Blandy Experimental Farm. Onsite amenities include bike paths, horseback riding (bring your horse), native plant trail, birding (bring your binoculars), Wilkins Lane Drive Tour, Conifer Trail, Walking Trails, American Chestnut and Meadow reclamation sites, and much more. For more information and to register by August 29th, contact Kathy Frame ([chuckframe@aol.com](mailto:chuckframe@aol.com)). See attachment for registration and information about the meeting.

### 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>

### NASA Rockets 2 Racecars - Richmond International Raceway

Join NASA at **Richmond International Raceway (RIR)** and learn how to get your students revved up about STEM with NASA Rockets 2 Racecars teacher professional development.

Become an ambassador of NASA content and **receive an hour** of professional development **for every hour** you are with NASA education specialists at the track! You will receive **training and practice** on one or all of the following activities:

- **Tire Tread Activity Math (Kindergarten - 4th)** -- Use nonstandard units to measure the approximate tread depth of three tire samples using coins.
- **Tire Diameter Activity Math (grades 5th - 9th)** -- Use standard and nonstandard units to measure total tire diameter of different tires in the NASA Rockets 2 Racecars tire exhibit.
- **Seeing the Invisible: Detecting Ultraviolet Radiation (General Science, Physical Science, Earth Science, Physics , adaptable for Upper Elementary)** --Using ultraviolet (or UV) detecting beads, students will detect the existence of ultraviolet radiation. Students will then see if different materials can block visible and ultraviolet radiation.
- **Go Green with Solar Energy (Earth Science)** -- NASA and NASCAR use Solar and other renewable energy sources to preserve our atmosphere and provide power for objects of various size (some larger than a football field), often to places where no power cords are available. Explore a variety images to discover how solar energy can be used to power everything from rovers to racetracks!
- **Drag Race to Mars Engineering Design Challenge (Physics, Mathematics, Engineering)** -- Design a landing capsule that uses the drag of the atmosphere to slow the capsule down and protect the payload inside, just as NASA engineers did for the Curiosity Rover, which arrived safely on Mars on Aug. 6<sup>th</sup>, 2012. Use a data sheet to record speed, or rate of descent, after each test trial. Also record notes on modifications to your design as you work.

Visit the Richmond International Raceway on **Friday, September 5<sup>th</sup>, 2014 between noon to 7pm and/or Saturday, September 6<sup>th</sup>, 2014 between 10am to 7pm** and get your hands dirty with different NASA-inspired activities in Science, Technology, Engineering and Mathematics (STEM) in the **VA529 Kid Zone** alongside **NASA Education Specialists while earning hours of professional development**. Teachers are encouraged to stay for **at least a two-hour shift** alongside NASA education specialists on either or both days.

Participating teachers will receive a free ticket for the NASCAR Nationwide Race on Friday, September 5, 2014. Visit <http://tinyurl.com/NASAR2RatRIR2014> to register.

### ***Shell Science Teaching Award***

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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.

### ***SpaceSports - Grades 3 - 5 - October 30, 2014***

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*Run, jump, and dive into learning!* Join this exciting half-day, action-packed workshop. Our mission is to travel through our solar system, choose the most inhabitable and friendly planet, and design the best sports for the first Olympics in Space!

In teams students study planets and sports as they relate science, technology, engineering, and math (S.T.E.M.) with materials matched to Virginia's state Standards of Learning (SOL). The Virginia Space Grant Consortium (VSGC), SportScienceFun™, NASA Langley, and the Virginia Department of Education (VDOE) have teamed up to invite Grade 3-5 teachers on a Space Sports S.T.E.M. Adventure! Hands-on fun classroom science experiments and action based Move to S.T.E.M.™ activities reinforce concepts through kinesthetic learning.

Students are naturally curious about space, and they love to play and watch sports. Making connections between sports and S.T.E.M. is an amazing way to engage and learn complex concepts! Have you ever experienced the thrill of a high flying gymnast or a backward flipping skateboarder? Yes! But what happens when sound can't travel and gravity can't help you? This workshop encourages creativity to solve these Space Sports problems!

The workshop will provide you with ready-to-use lesson plans with take home materials matched to SOLs in Science and Physical Education. Classroom teachers, education specialists, content specialists, physical education teachers, and informal educators – ALL are invited!

We are offering two sessions: 9 a.m. to 12 noon and 1 p.m. to 4 p.m. A catered lunch will be offered to all participants from 12 noon to 1 p.m. Each session will be limited to 30 teachers.

For more information visit: <http://www.sportsciencefun.com> or contact Kirsten Manning, VSGC Education Specialist, at 757-766-5210 or [kmanning@odu.edu](mailto:kmanning@odu.edu).

**Deadline to apply is September 19th.**

**Workshop location:**

New Horizon's Regional Governor's School  
520 Butler Farm Road  
Hampton, VA 23666

### ***VASS STEM Conference***

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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 #210-14  
[2014-2015 Verizon Innovative App Challenge](#)
- [MEMO #222-14](#)  
[The 2014-2015 Science through an Interdisciplinary Approach \(SIA\) Institutes for Elementary Teachers](#) 
- MEMO #195-14  
[Formative Assessment Pilot](#) 
- 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](#)

## 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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Jim Firebaugh ([jim.firebaugh@doe.virginia.gov](mailto:jim.firebaugh@doe.virginia.gov))

Eric Rhoades ([eric.rhoades@doe.virginia.gov](mailto:eric.rhoades@doe.virginia.gov))