

## VDOE Science Update

### December 1, 2014

#### NEWS

##### **VISTA**

Applications to attend VISTA's Elementary Science Institute are now open. The Institute gives 4th – 6th grade teachers the opportunity to improve their science teaching skills through free professional development that emphasizes hands-on exploration, problem-based learning and inquiry. Participants will receive a \$3,000 stipend, paid travel expenses, and \$1,000 toward classroom supplies. Apply today at [www.vista.gmu.edu](http://www.vista.gmu.edu).

##### ***Governor McAuliffe Announces SOL Innovation Committee's Interim Recommendations***

The Secretary of Education Anne Holton announced that the Standards of Learning (SOL) Innovation Committee has completed their first round of interim recommendations. The Committee's work is ongoing, with further recommendation expected next year.

To read the full executive summary click [here](#).

To read the full report click [here](#).

##### ***LENS Cornerstone Assessments***

The Learning Enhanced through the Nature of Science (LENS) project is an innovative professional development program for high school Earth Science, Biology, Chemistry, and Physics teachers. The Cornerstone Assessments are a product developed as a part of the project. A team of secondary science teachers, science curricular and methods experts, and cognitive psychologists developed the Cornerstone Assessments as a part of the LENS project.

The Cornerstone Assessments use knowledge and skills related to scientific investigation to inform instruction, inform student learning, and measure student progress over time (beginning-, middle-, and end-of-the-year). The Cornerstone Assessments are available for you to use with your students if you decide they meet your needs.

The Virginia Department of Education (VDOE) and Old Dominion University (ODU) have partnered to offer **Earth Science, Biology, Chemistry, and Physics** teachers these performance-based assessments and associated tools to use as a resource in their classes. The [LENS Cornerstone Assessment](#) website provides technical assistance in the form of tutorial and sample assessments. The [LENS Cornerstone Assessment Download \(LCAD\)](#) is a secure portal that allows school division leaders and teachers to download the assessments and associated tools such as keys, rubrics, and spreadsheets. Please contact [Eric Rhoades](#) if you are interested in more information about this resource.

##### ***Presidential Awards for Excellence in Mathematics and Science Teaching Awards***

The PAEMST program is pleased to announce that nominations for the 2014-2015 cycle are open. Now is the time to begin coordinating outreach and recruitment efforts as you identify a pool of unique and talented secondary teachers (7-12) to participate in this year's program. The application cycle opened on the [PAEMST website](#) on November 1, 2014.

##### ***FY15 B-WET Grant Availability Announced***

Approximately \$2.7 million may be available for schools, school systems, higher education institutions, community-based and nonprofit organizations, state or local government agencies, interstate agencies, and Indian tribal governments seeking to support education of the next generation of Chesapeake Bay stewards. The NOAA Chesapeake Bay Office has released details on requirements and the process for applying for FY15 [Bay Watershed Education and Training \(B-WET\)](#) grants; applications are due by **January 14, 2015**.

B-WET supports programs that provide hands-on environmental education about issues affecting the Chesapeake Bay watershed for students and related professional development for educators who serve formal K-12 audiences.

Proposals for FY15 funding must address at least one of several target priorities:

- Systemic MWEE Implementation: These programs will strive to reach the entire student and teacher population in one or more grades in an entire school system or recognized sub-unit of a school system with [meaningful watershed educational experiences](#)—“MWEEs.”
- MWEE Capacity Building: These projects will build the capacity of agencies and organizations to develop, deliver, and sustain projects that advance the MWEE at the state or regional level.
- Emerging Projects: In order to cultivate projects and partners not traditionally served by B-WET, NOAA encourages new applicants, or those who have not received B-WET funding in the last five fiscal years (FY10-14), to apply as Emerging Projects.

## Teacher Resources

### *NAEP Question Tool*

The [NAEP Questions Tool \(NQT\)](#) provides access to over 3,000 released questions from NAEP assessments in all NAEP subject areas. You can see examples of students’ actual answers to **constructed-response questions, with scorer comments**. You can also see the percentage of students nationwide who answered each question correctly, and how students’ performance on a given question corresponds to their overall scores.

You can bookmark question for later use, and use them to supplement classroom instruction.

For information about using the NQT:

- Watch the [short video showing the features of NQT](#) and how to use them
- Get more details from the [tutorial](#) and the [Quick Reference Guide](#)  (553 KB)
- Investigate the “What can I do here?” link and the Help button that are on every page of the NQT.

### *BioInteractive - How the Dinosaurs Went Extinct*

Cataclysmic events like massive volcanic eruptions and asteroids smashing into Earth are thought to have caused Earth's five extinctions — but could a manmade one be next? Follow the evidence for extinctions past and present in [Mass Extinction: Life at the Brink](#), a new documentary film that will air on the Smithsonian Channel starting on November 30th. Then, check out related [BioInteractive resources](#), including the popular short film [The Day the Mesozoic Died](#), about the extinction that brought an end to the dinosaur era.

### *Release of Spring 2014 SOL Tests*

Information regarding the release of items from the Spring 2014 SOL tests is provided in [Superintendent’s Memo No. 274-14](#). There will be a set of test items released from the 2014 end-of-course mathematics, end-of-course science (Earth Science, Biology, and Chemistry), Grade 5 Science, Grade 8 Science, Grade 8 Reading, and Grade 8 Writing tests as the bank cannot support a full release of

these test forms. If you have questions, please contact the student assessment staff by e-mail at [Student\\_Assessment@doe.virginia.gov](mailto:Student_Assessment@doe.virginia.gov) or by phone at (804) 225-2102.

## Teacher Opportunities

### *Smithsonian Science How*

In partnership with the Smithsonian Institute, the Virginia Museum of Natural History has an exciting opportunity for middle school students! The Museum would like to invite you to register for one of its FREE upcoming Smithsonian Science How live, interactive webcasts. Each webcast aligns with the Virginia Science Standards of Learning and focuses on connecting students to scientists, increasing students' understanding of science, and inspiring students about STEM education and careers.

Registering is easy. Simply contact [discover@vmnh.virginia.gov](mailto:discover@vmnh.virginia.gov) or call (276) 634-4185. For more information on Smithsonian Science How and each of the webcasts, and to access classroom activities, lessons, readings and other related resources, visit the VMNH web page at:

<http://www.vmnh.net/smithsonian-science-how> .

Thursday, Dec. 11, 2014 11am and 2pm EST

Bird Extinctions: Time Travel through Lava Tubes with Ornithologist Helen James, Life Science, Earth Science

### *“Ask US”*

Online Educator Professional Development Sessions covering Earth System Science topics from Earth Systems, Technology and Energy Education for MUREP-Minority University Research and Education Program (ESTEEM).

**December 11, 4:30-5:45PM EST** Broadcast Live from NASA Langley: Change Over Time: Investigate Climate Change Impacts in the Midwest

Please contact Bonnie Murray at [bonnie.murray@nasa.gov](mailto:bonnie.murray@nasa.gov) if you would like to organize a group to connect to the interactive session.

For details, visit the NASA ESTEEM (formerly NICE) website [www.nice.larc.nasa.gov](http://www.nice.larc.nasa.gov).

### *Real World Science—Yesterday, Today, And Tomorrow*

The National WWII Museum is excited to announce a week-long professional development opportunity to take place in the summer of 2015 for middle school (5-8<sup>th</sup> grade) science teachers. Twenty eight teachers from across the country will come to New Orleans to experience (through hands-on experiences) how necessity, knowledge, perseverance and skill lead to inventions, innovation, and careers in STEM—just like in World War II.

This seminar is supported by a grant from the Northrop Grumman Foundation. Teachers will receive free room and board in New Orleans, a travel stipend, and all seminar materials free of charge.

The museum is looking for great young teachers nationwide, and the application period begins January 5<sup>th</sup> 2015. Please visit <http://www.nationalww2museum.org/realworldscience> for more information and to sign up for email updates.

### ***Robert E. Yager Foundation Excellence in Teaching Award***

The Robert E. Yager Foundation Excellence in Teaching Award will recognize excellence and innovation in the field of science education. This award acknowledges teachers who share Robert Yager's passion for education and continued professional development. This award also honors Robert Yager's effort to make excellent science education accessible to students of the 21st century and beyond. Awardees will have exhibited excellence and innovation in the field of science education, and embody the mission statement of NSTA.

Six awardees will be selected annually. The individual awardees will receive a \$1,000 award, up to \$1,000 for travel expenses to attend the NSTA National Congress on Science Education, and a plaque. They will be asked to present at the NSTA National Congress on Science Education, with their presentation videotaped for future use. The awards will be presented during a luncheon at the NSTA National Congress on Science Education, held each summer. The corresponding NSTA District Director will personally notify the recipients. For more information, visit <http://www.nsta.org/docs/awards/Yager.pdf>.

### ***2015 Airborne Astronomy Ambassadors (AAA) Program***

NASA's Stratospheric Observatory For Infrared Astronomy (SOFIA) is now accepting applications for the Cycle 3 – 2015 Airborne Astronomy Ambassadors (AAA) Program. The AAA program is an exciting and unique opportunity for educators. The teams that are selected receive online astronomy instruction, and a trip to Palmdale, CA to participate in two SOFIA Science Flights. The science flights offer educators interaction with astronomers, engineers and technicians on board the aircraft, and a view to the collaboration that leads to astronomical data collection and the research papers that follow.

The eligibility and program requirements are summarized and detailed at <http://www.seti.org/sofia>. In brief, one team member must be a middle or high school science teacher, the other team member may be a teacher, informal educator (e.g.- educator at a science center, librarian implementing community programming), or amateur astronomer. The program pays all costs.

Applications are due December 22, 2014.

## **Student Opportunities**

### ***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 313-14  
[Virginia Digital Textbook Marketplace Pilot](#)
- MEMO 310-14  
[Nominations for the 2015 Standards of Learning Item and Test Review Committees](#) 
- MEMO 309-14  
[Clarification of Verified Credit Requirements for Transfer Students](#)
- MEMO 304-14  
[Reimbursements for Advanced Placement and International Baccalaureate Test Fee Payment Program for 2013-2014](#) 

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

Barbara Young ([Barbara.young@doe.virginia.gov](mailto:Barbara.young@doe.virginia.gov))

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))

**Eric M. Rhoades, Director**

Office of Science and Health Education

Division of Instruction

Virginia Department of Education

Office (804) 786-2481

Fax (804) 786-1703

[Science Resources](#)