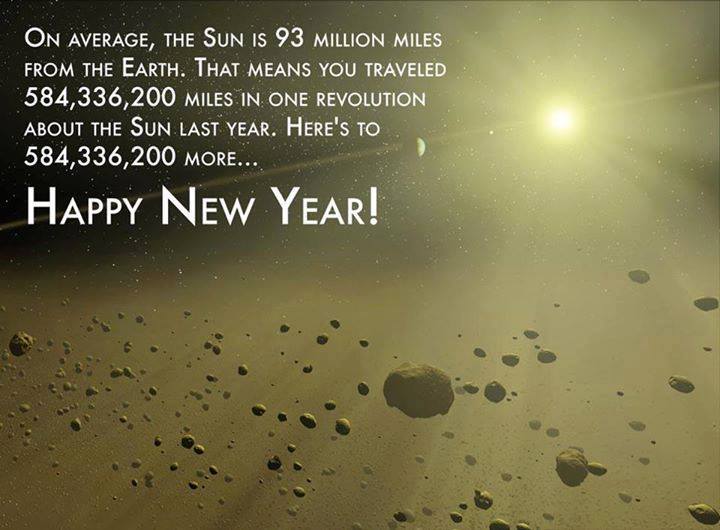
**RISTA has Big Plans for 2016!**

We are thankful for all of the information that is shared with us to create this newsletter.   If you are interested in any of the opportunities listed, please contact the organization that is listed in the entry.  Please send any items that you consider relevant to other science educators to ristanewsletter@gmail.com



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**Upcoming RISTA Events**

Exploring Elementary Life Sciences in an NGSS Classroom

***January 23rd at Winman Junior High School in Warwick***

Teachers will participate in several investigations and practice structuring facilitation questions and student experiences that interweaves all three NGSS dimensions into the learning experience. NGSS “Topics” to be explored include “Inheritance and Variation of Traits”, “Interdependent Relationships in Ecosystems”, and “Matter and Energy in Organisms in Ecosystems”.

About the Presenter: Sean Musselman is a Science Specialist for the Burlington, Massachusetts Public Schools and its Burlington Science Center. His primary goal each and every year is to coordinate and enrich the school system’s science curriculum by “bringing science to life.” Prior to his employment in Burlington, Mr. Musselman was an eighth grade earth and space science teacher for the Reading, Massachusetts public schools.

See his website at https://musselmanscience.wordpress.com/

**Register for the event at http://www.rista.us/event-2122740**

Invitation to Present at the 2016 RISTA Conference

***Saturday, March 12th*** ***at LaSalle Academy in Providence***

2016 Conference plans are being set.  We have confirmed that our keynote speaker will be Page Keeley, past NSTA President and who has authored a number on formative assessment techniques in science classes.  She is a great presenter and we are eager to welcome her to Rhode Island.  Please consider presenting to fellow science educators!  We are looking for science educators from K-16 to present on topics related to NGSS, including lesson ideas and useful resources.  [Apply online](http://goo.gl/forms/3PoAV7Sv03" \t "_blank), deadline is January 15th.

**NGSS Information and Resources:**

Achieve and the Teaching Channel Release New Videos Demonstrating EQuIP for Science

We're excited to announce that four new videos highlighting the Educators Evaluating Quality in Instructional Products (EQuIP) for Science rubric are now available online.  Developed through a collaboration between Achieve and the Teaching Channel, the video series uses rich conversations emerging from a Next Generation Science Standards (NGSS) EQuIP training session to illustrate some important features of NGSS-aligned instructional materials and classroom activities.

Each of the stand-alone videos focuses on educators using different aspects of the EQuIP rubric and captures discussions of what to look for in NGSS instructional materials, as well as the evaluation and feedback process that the rubric is designed to support. Each video also highlights some of the common ideas and frequently asked questions that emerge during an EQuIP for Science training session.

For teachers, this series explores what the NGSS might look like in the classroom and how to think about shifts in the instructional materials that will support a transition to the standards. The videos are part of a growing suite of NGSS EQuIP resources, including the [EQuIP Rubric for Lessons & Units: Science](http://r20.rs6.net/tn.jsp?f=001sHw881CKFAOhlJUYCYvXnNXh5NBkxGLLYNsvpiQVT1U7dNhW3yOpgAAKjLr8UOknFtZKu3v9oKb9TgFIUXZz9GIVDl-hElo8Le6ZNFbwpFtcDQLvCo3hVQdHMpsYSjW51UfbXdjqMv1oPIQIAuq1cd3HXfz_qqNX_6-ZvepF9fL516NaiDEVORg08Gado4soUxDoOtrCiuqmpZdilKPVdDtg9_HUT9UsYLEPOEupPXtUF45ijmlKDyljIJmWHGduxC6fld9_75XoIx8l99hVKQ==&c=0gX4gCIRmR6nXs_TBjyfrfi2drib5YFfrlpGschVKG5pTOVU5n0BOw==&ch=xuILcD-FH11-KUl3nRU0FvxN_GM7YhQ6JtCV6yla-iqRXD1EIT1Oyg==" \t "_blank)

 and the [NGSS EQuIP Professional Learning Facilitator's Guide](http://r20.rs6.net/tn.jsp?f=001sHw881CKFAOhlJUYCYvXnNXh5NBkxGLLYNsvpiQVT1U7dNhW3yOpgJgjqspIMOrYzAj9vVz-2Vm3ECAIQ7XTodLqlR3MbIc7SI1slrH0Kp5w7S9Vw6sK9p6xp-OioiyQjqMUfTUoc6mH4ZXfJYR3S4kV0ZWQ0ElvWfga466M7QxSrGMtBsRurcUcOhqQbxYxlXfbZ7CudSS1wdRSSg8f5zNfvXOgaeE-rUDAAMxGLjyDUI_lhIgfNfGVcCHVZbyLO7KbGtS15_s=&c=0gX4gCIRmR6nXs_TBjyfrfi2drib5YFfrlpGschVKG5pTOVU5n0BOw==&ch=xuILcD-FH11-KUl3nRU0FvxN_GM7YhQ6JtCV6yla-iqRXD1EIT1Oyg==" \t "_blank)

Click the links below to watch the videos by topic:

NGSS EQuIP Rubric: Overview  
[https://www.teachingchannel.org/videos/ngss-rubric-intro-achieve](http://r20.rs6.net/tn.jsp?f=001sHw881CKFAOhlJUYCYvXnNXh5NBkxGLLYNsvpiQVT1U7dNhW3yOpgAAKjLr8UOkn-iHJO6umfWGZK34YP3oILPPACeKa9V5WRoI1XdURZd3ZYnTlVxUX5DROvqrTEKzDQy8hLKudv2RUG6Tlri0fjovPMiBpAXSF0yV1NJ9q3GFvUOWtGF7lvv1Sv5ebGv0qjHk2blIuVXaSv3RaFQbDysnK2oNM4sV6QVN-QWrldSQ=&c=0gX4gCIRmR6nXs_TBjyfrfi2drib5YFfrlpGschVKG5pTOVU5n0BOw==&ch=xuILcD-FH11-KUl3nRU0FvxN_GM7YhQ6JtCV6yla-iqRXD1EIT1Oyg==" \t "_blank)

NGSS EQuIP Rubric: 3-Dimensional Learning  
[https://www.teachingchannel.org/videos/3-dimensional-learning-achieve](http://r20.rs6.net/tn.jsp?f=001sHw881CKFAOhlJUYCYvXnNXh5NBkxGLLYNsvpiQVT1U7dNhW3yOpgAAKjLr8UOknB-RtJPfoPjy_wwih1Z3oCghYTGujaFf4vUhdp3dxwqEu_REO917H7_pfaOfrF4RbFZbgMAhjHUPc3_zITfM8uPrg46wum2ItyMrSdlVHahjbCstZGmoB-KawBTm-BGml6KwNIrAuqL6WTcwYwh8tif2e1fkukzGWO7cVGHdSjNE=&c=0gX4gCIRmR6nXs_TBjyfrfi2drib5YFfrlpGschVKG5pTOVU5n0BOw==&ch=xuILcD-FH11-KUl3nRU0FvxN_GM7YhQ6JtCV6yla-iqRXD1EIT1Oyg==" \t "_blank)

NGSS EQuIP Rubric: Using Phenomena  
[https://www.teachingchannel.org/videos/using-phenomena-achieve](http://r20.rs6.net/tn.jsp?f=001sHw881CKFAOhlJUYCYvXnNXh5NBkxGLLYNsvpiQVT1U7dNhW3yOpgAAKjLr8UOkntQ5jsg8NOMrxPNfUNzRI3Y-GKydBF8kxq8SGexF3OAjfdLdatXtrEjNuX4UDNYq2wtxR9wMfhThxvGaxkI7V8IHQ6tjurAbpMrqf6YK5kJdbLKSdb9JpfcY1hNUK8vIqqRfV0bP4wkbg0U9EI6XOXcmGFICGlYWE&c=0gX4gCIRmR6nXs_TBjyfrfi2drib5YFfrlpGschVKG5pTOVU5n0BOw==&ch=xuILcD-FH11-KUl3nRU0FvxN_GM7YhQ6JtCV6yla-iqRXD1EIT1Oyg==" \t "_blank)

NGSS EQuIP Rubric: Evidence of Student Learning  
[https://www.teachingchannel.org/videos/evidence-student-learning-achieve](http://r20.rs6.net/tn.jsp?f=001sHw881CKFAOhlJUYCYvXnNXh5NBkxGLLYNsvpiQVT1U7dNhW3yOpgAAKjLr8UOknzD584s86SjqRCnGuuW0gzuSO-sz2YD_7P5R08bl3Xrlptecjgl1ZICi80E-Md71MKuReWOoDL-RYMYXFPI2mGD7dW1Z18-XGZJJMsazSED10WHVQu-mLedIpsi7q-76zgyAieqlHUSFfKSUFqxKasH1VeKs0davDEbjpFFl79Bkf_9J4gB10wQ==&c=0gX4gCIRmR6nXs_TBjyfrfi2drib5YFfrlpGschVKG5pTOVU5n0BOw==&ch=xuILcD-FH11-KUl3nRU0FvxN_GM7YhQ6JtCV6yla-iqRXD1EIT1Oyg==" \t "_blank)

#NGSSchat

If you need ideas and inspiration about implementing NGSS get a Twitter account! On the 1st and 3rd Thursday of each month (9-10 pm EST), science educators from across the country sign on and use #ngsschat in their tweets to discuss a set of questions. See <https://ngsschat.wikispaces.com/home> for some archived ‘chats’ (most recent is at the bottom of the list. If you are new to twitter, just search for #ngsschat and read the conversation. When you are ready to join in, just write a post and include #ngsschat so others following will see it. Many great ideas and resources are shared!

NGSS@NSTA Hub

55 trained curators have been seeking out quality resources.  Curators are science educators who teach K-12 and have been trained by NSTA to vet resources for each of the NGSS Performance Expectations.  The resources are being uploaded as the resources are reviewed, some PEs are not complete.  Check out the site at[ngss.nsta.org](http://www.ngss.nsta.org/" \t "_blank) and click on ‘The Standards’ tab.  Choose the PE that you need a resource for and scroll to the bottom of the page, resources will be listed at the bottom right corner.  Check back for additional resources!

STEM Teaching Tools

If you have not already checked out the STEM Teaching Tools, you need to!  Philip Bell of the University of Washington has created a number of one-page handouts that are perfect for professional development as well as to inform parents and other stakeholders of how science instruction is changing.  He is always looking for additional topics, so reach out to him if you have an idea.  The website has the handouts in pdf files and invites you to take them to print as you need them.  Check it out at www.stemteachingtools.org

**Opportunities & Resources for Teachers:**

Shell Science Lab Challenge deadline January 19th

Are you a science teacher succeeding in providing exemplary lab instruction with minimal equipment and resources? The Shell Science Lab Challenge offers you a chance to compete to win a school science lab makeover, valued at **$20,000**, by sharing your creative approach. Middle and high school science teachers (grades 6-12) in the United States and Canada who have found innovative ways to deliver quality lab experiences with limited school and laboratory resources are encouraged to apply! The extended deadline is January 19, 2016 at 11: 59 PM

All winners will receive Ward’s Science lab equipment, Shell cash grants, NSTA memberships, and support to attend NSTA Conferences on Science Education. The grand prizewinner and four national finalists will be honored at a special banquet and ceremony NSTA's National Conference on Science Education in Nashville on April 1, 2016.   For more information about the Challenge, begin your application at [http://www.nsta.org/shellsciencelab](http://www.nsta.org/shellsciencelab" \t "_blank) or for more information email [shellsciencelab@nsta.org](mailto:shellsciencelab@nsta.org" \t "_blank).

You can’t win if you don’t apply!

LinkEngineering

[LinkEngineering](http://www.mmsend53.com/link.cfm?r=2061533959&sid=86846195&m=11707583&u=NSTA&j=31409817&s=http://www.linkengineering.org/15.aspx" \t "_blank) is a community of educators working with PreK–12 students in classrooms or other settings. This includes—but is not limited to—teachers, teacher educators, and administrators. The site allows members to connect with each other and engineering education experts. LinkEngineering is a resource website that provides examples of engineering in educational settings. It also provides background information on [engineering](http://www.mmsend53.com/link.cfm?r=2061533959&sid=86846196&m=11707583&u=NSTA&j=31409817&s=http://www.linkengineering.org/Discover/WhatIsEngineering/EngineeringResources.aspx" \t "_blank) and [engineering design](http://www.mmsend53.com/link.cfm?r=2061533959&sid=86846197&m=11707583&u=NSTA&j=31409817&s=http://www.linkengineering.org/Discover/EngineeringDesign/EngineeringDesignCollection.aspx" \t "_blank).

This site is the product of collaboration between the National Academy of Engineering and five partner organizations: Achieve, Inc., NSTA, Council of State Science Supervisors, American Society for Engineering Education, and the International Technology and Engineering Educators Association. Funded by Chevron, LinkEngineering is designed to support more effective engineering experiences in classrooms and out-of-/after-school settings. It is not merely a collection of stuff. It is a community of practitioners learning from one another. Sign up at [www.linkengineering.org](http://www.mmsend53.com/link.cfm?r=2061533959&sid=86846198&m=11707583&u=NSTA&j=31409817&s=http://www.linkengineering.org/" \t "_blank)

MOOC Available on Reading to Learn in Science

Free online Stanford course, “Reading to Learn in Science”, will be offered from January through April by Professor Jonathan Osborne.

According to a 2009 policy information report published by the Educational Testing Service, eighth grade students who said they engaged with their science textbooks almost every day, either in class or for homework, scored significantly higher on National Assessment of Educational Progress tests than peers who said they read textbooks never or hardly ever.

Yet for many students, textbooks on chemistry, biology and physics are not easy reads. The hefty volumes tend to be loaded with dense paragraphs, unfamiliar jargon and puzzling charts.  As [Jonathan Osborne](https://ed.stanford.edu/faculty/osbornej" \t "_blank), Kamalachari Professor of Science Education at Stanford, notes, “Even children who learn to read quickly – devouring books or blogs, novels or news stories – often seem to struggle with scientific prose.”

Fortunately, Osborne says, there are some effective strategies that K-12 science teachers can use in their classrooms to help students get the most out of the difficult texts. The veteran science educator soon will be sharing some of those proven teaching methods, and the research behind them, in a free open online course, or MOOC, called *Reading to Learn in Scienc*e.

For details on the course and examples of strategies go to [https://ed.stanford.edu/news/teaching-students-read-science-textbooks?utm\_source=educator&utm\_medium=email&utm\_campaign=november-december-2015](https://ed.stanford.edu/news/teaching-students-read-science-textbooks?utm_source=educator&utm_medium=email&utm_campaign=november-december-2015" \t "_blank)

1001 Lab Safety Questions: What Every High School Science Teacher Should Know

The Laboratory Safety Institute invites all science/education organizations and individuals to contribute what they believe are the important questions that high school science teachers should be able to answer.  We ask not only for the question but also for the correct answer and the resource reference which help readers to better understand why the answer is correct.

LSI believes that there are two myths in science education: the administrator’s myth and the student’s myth.  They go like this:

* The Administrators’ Myth: They went to school for a long time and studied science.  They will make sure that students are not harmed.
* The Students’ Myth: They went to school for a long time and studied science.  They will make sure that students are not harmed.

In the spring of 2015, the Laboratory Safety Institute (LSI) completed a survey of US State and Territory Departments of Education.  Only one question was asked. “Do you have any written requirements to become a certified science teacher in your state or territory?”  Only 8% said yes (100% participation).

Faced with increasing concern that children and administrators can’t count on new science teachers having sufficient knowledge about science safety, LSI is now “crowd-sourcing” this collection of question, answers, and resources.  We hope that prospective science teachers, the colleges and universities that help to educate them, and current science teachers will use this collection of question to grow both their knowledge and appreciation of safety in science education.  Want to test your **Lab Safety Intelligence Quotient (LSIQ)?**  Try answering the questions in this collection.

 We hope that every reader will want to contribute a question and challenge the answers wherever appropriate.  Questions may be multiple choice, true/false, fill in the blank, essay, etc.

Life has nine hazards: Chemical, Physical, Biological, Mechanical, Radiation, Hi-Lo Pressure, Noise, Electrical, and Stress.  We will divide the questions into these nine categories and add a few more for good measure, as needed.

Everyone contributing a question which is accepted for publication will receive an electronic copy of the full collection and an acknowledgment (unless you wish to remain anonymous).  If you are interested in volunteering to serve on an editorial board, want more information, or wish to submit Q&A’s, please contact me: [508-574-6264](tel:508-574-6264" \t "_blank) or emailjim@labsafetyinstitute.org.

NEW ENGLAND SCIENCE & SAILING: Ocean Minded Adventure Education

New England Science & Sailing (NESS) is looking for teachers who are interested in working part-time or full-time over the summer. Are you interested in learning more about the ocean and doing while getting paid!? NESS instructors get kids excited about science and implement an active, hands-on, minds-on experientially-oriented marine science based program includingkayaking, snorkeling, surfing, stand-up paddle boarding, body boarding, and fishing.

**Positions Available:**

·         Little Aquanauts Instructors (ages 4 – 5)

·         Bay Bounders Instructors (ages 6 – 7)

·         Westerly Ocean Adventures Program (ages 6 – 9 & 10 – 13)

Please email Mistral Dodson – mdodson@nessf.org – if you are interested in more information.

Online Teacher Professional Development Opportunity:

For middle and high school teachers-please share with your colleagues, consider applying to our year-long science teacher professional development program with a total of up to $1,500 in fellowship payments: [http://www.frontiersinphys.org](http://www.frontiersinphys.org/" \t "_blank)

Applications are due no later than January 25, 2016.

Questions?  Contact Margaret Stieben [mshain@the-aps.org](mailto:mshain@the-aps.org" \t "_blank)

New Engineering Videos for K–12 Educators

The Museum of Science, Boston has released a series of videos to help K–12 educators understand and implement new academic standards. Created by Engineering is Elementary® (EiE®), the award-winning curriculum project of the Museum's National Center for Technological Literacy® (NCTL®), the "[EiE Video Snippets](http://www.mmsend53.com/link.cfm?r=2061533959&sid=86846200&m=11707583&u=NSTA&j=31409817&s=http://www.eie.org/engineering-elementary/eie-video-snippets" \t "_blank)" illuminate the science and engineering practices specified in the Next Generation Science Standards (NGSS), showing what these practices look like when young children try them in real classrooms. For each of the eight NGSS practices, the collection features a set of up to four short (1- to 2-minute) videos; some show elementary students engaging in a practice, such as planning an investigation, analyzing data, or making an argument based on the evidence; others show teachers using instructional strategies that guide students in the practices.

Into the Outdoors Videos: Free!

Into the Outdoors is not only an Emmy-winning television series; it is a free educational resource for teachers. Our website, [intotheoutdoors.org](http://intotheoutdoors.org/" \t "_blank), offers teachers and students alike over 100 STEM-based science videos and companion lesson activities aligned to state and national standards. We also send out a quarterly newsletter which you can subscribe to right on our website. That way, you won't miss any updates about our new videos, lessons, or even an upcoming student film festival. A field trip to some of the places we feature may not always be possible but, with us, you can always take your students...Into the Outdoors.

Here is the link to our "[Teacher How-To" page](http://intotheoutdoors.org/teachers/" \t "_blank)

Presidential Award for Excellence in Math and Science Teaching (PAEMST) Nominations are open

**The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST),** the nation’s highest honor for teachers of mathematics and science, has opened its 2015 – 2016 nomination and application period for elementary (K-6th) teachers. PAEMST is awarded annually to exceptional K-12 educators throughout the nation, alternating each year between K-6 and 7-12 grades.

We encourage you to nominate an exceptional teacher you may know, or if you’re a teacher yourself, to being an application.

Being a PAEMST awardee is a tremendous honor. Recipients will gather in Washington, D.C. for a series of events as tribute to their accomplishments, will receive a certificate signed by the President and a $10,000 award from the National Science Foundation (NSF).

The 2015-2016 **nomination deadline is April 1, 2016**, and the **application deadline is May 1, 2016**, so consider nominating a talented teacher or submitting a self-nomination on the PAEMST website

Bright Schools Competition

Middle school students (grades 6–8) who compete in the Bright Schools Competition get a hands-on STEM learning experience that helps students, parents, and teachers better understand the links among light, sleep, and student health and performance. The competition is free to enter and offers great prizes for students and teachers. Projects are **due on January 29, 2016**. For more information and to register, go to http://brightschoolscompetition.org/default.aspx.

Looking for Digital Innovators

Over the course of the 2016/2017 school year, PBS LearningMedia Digital Innovators will be part of a robust professional learning community that will foster new ways of thinking, while leading the way in using technology to drive student achievement. Apply to be one of the PBS LearningMedia Digital Innovators **by February 8**. For more information and to apply, go to http://www.pbslearningmedia.org/digitalinnovators.

Registration Now Open for Toshiba/NSTA ExploraVision Program

Registration for the 24th annual Toshiba/NSTA ExploraVision program—the world's largest K–12 student science competition—is now open. The deadline for all project submissions is **February 1, 2016.**

Through the competition, teams of 2 to 4 students are challenged to research scientific principles and current technologies as the basis for designing innovative technologies that could exist in 20 years. Students simulate real scientific research to outline how they plan to test their ideas and create mock websites to illustrate concepts. Student participants will have a chance to win a number of great prizes, including $10,000 U.S. Series EE Savings Bonds (at maturity). Canadian winners receive Canada bonds purchased for the equivalent issue price in Canadian dollars. And to celebrate ExploraVision's 24th anniversary, the top 24 teachers who submit 24 eligible online entries will receive a Toshiba tablet.

Teachers can learn more information by visiting the frequently asked questions page on the competition website

NSTA Conferences

NSTA conferences offer the latest in science/STEM content, pedagogy, and research to enhance and expand your professional growth. Take advantage of this unique opportunity to collaborate with science education leaders and your peers. Each year, NSTA hosts a national conference on science education (in the spring), three area conferences (in the fall), and a STEM Forum & Expo. Learn more

2016 Conferences:

**Nashville (National): Mar. 31–Apr. 3, 2016**

**STEM Forum & Expo: Denver, July 27–29, 2016**

**Opportunities for Students:**

Contest from the Massachusetts Society for Medical Research

The **25th Annual MSMR Student Competition**for middle- and high-school students is now open and accepting submissions (Essay, Poster or Website) throughMay 9, 2016. More details and the links to the Student Package and Entry Form are  **[here](http://www.msmr.org/2016competition.html" \t "_blank)**

All New England students in grades 7 – 12 are eligible to enter – public, private, parochial or home school. Students in grades 7 & 8 are entered as Level I and students in grades 9 – 12 are entered as Level II.

Students interested in life sciences and in research breakthrough news will enjoy the Competition. They can win prizes up to $500 as well as recognition at our Annual Meeting in June. Teachers of winning students receive modest classroom grants as well as recognition at the MSMR Annual Meeting.

NASA's 2015-16 Cassini Scientist for a Day Essay Contest

The Cassini spacecraft launched in October 1997 and has been orbiting Saturn since 2004.  The 2015-16 Cassini Scientist for a Day Essay Contest is open to students in grades 5-12. Essays must be under 500 words.

There are three essay topics to choose from:

Target 1. Saturn’s rings and three moons: Tethys, Enceladus, and Mimas

Target 2. Jupiter, as seen from a billion miles away

Target 3. Saturn’s moon, Tethys, passing behind Rhea (27-frame movie)

Students choose one of these topics and answer: **Why they think this image should be taken by the Cassini spacecraft**. What questions do they hope will be answered by taking this picture?  The essay contest meets U.S. National Science and Language Arts Standards. For contest rules, videos about each essay topic, a downloadable contest flyer, frequently asked questions, and more information, visit: [http://go.nasa.gov/1lPEmxn](http://go.nasa.gov/1lPEmxn" \t "_blank)

The contest deadline is Friday, February 26, 2016. (Note: Some participating countries have different deadlines.) All essays must be submitted by the students’ teacher (or parent, if homeschooled). If the essay contest is used as a class assignment, please send the top 3 essays from each class, along with a list of other students who wrote essays for the contest.

All students who write essays will receive a certificate of participation. U.S. winners and their classes will be invited to participate in a teleconference with Cassini scientists. U.S. and international winning essays will be posted on the Cassini website.  For questions about the contest or to sign up for the contest’s email distribution list, contactscientistforaday@jpl.nasa.gov Good luck!

Now Open for Entries: Register Today for the 2016 Discovery Education 3M Young Scientist Challenge

The [Discovery Education 3M Young Scientist Challenge](http://cl.exct.net/?ju=fe3110757167007e741773&ls=fdc015757d6d067d7213747560&m=ff2e16777762&l=fe5015797d6d077a7011&s=fddc15787d6d0d7f7c1d737c&jb=ffcf14&t=" \o "Discovery Education 3M Young Scientist Challenge" \t "_blank) is now open for entries. Register your young scientist today and have them start brainstorming their video submission over winter break.   
  
Get your students' creative wheels turning with our [thought starters](http://cl.exct.net/?ju=fe3010757167007e741774&ls=fdc015757d6d067d7213747560&m=ff2e16777762&l=fe5015797d6d077a7011&s=fddc15787d6d0d7f7c1d737c&jb=ffcf14&t=" \o "thought starters" \t "_blank) ranging from how we manufacture to how we stay healthy. They can also get some inspiration from our 2015 Top Young Scientist, Hannah Herbst. Check out her winning project here.

Students in grades 5-8 are asked to propose a new invention or solution to an everyday problem, and explain their solution in a one-to-two minute video.

**Prizing:**

* **One Grand Prize Winner**will be named "America's Top Young Scientist" receive $25,000 and the once-in-a-lifetime opportunity to attend a taping of a Discovery Network show!
* **10 Finalists** will work one-on-one with a 3M Scientist during an exclusive summer mentorship.  Plus, each of the Top 10 will be awarded $1,000 and a trip to 3M's World Headquarters
* **Up to 51 State Merit Winners** will receive a technology prize pack valued at more than $250

Videos will be accepted through April 20, 2016.

STEM Competition from GAMA

For the fourth year, the General Aviation Manufacturers Association (GAMA) is pleased to sponsor the Aviation Design Challenge, a competition for U.S. high school students that promotes STEM knowledge through aviation. Teachers who enter their schools will receive complimentary Fly to Learn curriculum (both student and teacher versions), as well as five complimentary copies of airplane design and simulation software powered by X-Plane. The curriculum and software, which teach the basics of aerospace engineering and design principles, can be used either in the classroom or as an extracurricular activity. Students will then apply the knowledge they gain to modify and fly their own virtual airplane in a fly-off.

Registration for the competition is limited to the first 100 teams that enter and is open until **January 31, 2016**. Fly to Learn will offer complimentary webinars from February 15-March 31, 2016, with the competition taking place between April 1-30, 2016. The prize will include an all-expenses-paid trip for up to four high school students, one teacher, and one chaperone to experience general aviation manufacturing firsthand.

Only one team per school may enter and must consist of four students, including at least one female student and one male student.

To learn more about the competition and to register, please visit [www.gama.aero/advocacy/aviation-education/stem](http://www.gama.aero/advocacy/aviation-education/stem" \t "_blank)

Junior Science & Humanities Symposium

The Junior Science and Humanities Symposium (JSHS) is designed to challenge and engage students (Grades 9-12) in science, technology, engineering or mathematics (STEM). Individual students compete for scholarships and recognition by presenting the results of their original research efforts before a panel of judges and an audience of their peers. Opportunities for hands-on workshops, panel discussions, career exploration, research lab visits and networking are planned.

JSHS aims to prepare and support students to contribute as future scientists and engineers -- conducting STEM research on behalf of or directly for the Department of Defense, the Federal research laboratories, or for the greater good in advancing the nation's scientific and technological progress. The 2016 JSHS Southern New England Regional Forum will be held at Boston University on Friday, **March 18**. Professor Bennett Goldberg, Director of STEM Education Initiatives at Boston University, and Michael Dennehy, Director of College Access and Completion in the School of Education, will be serving as co-directors of the symposium. [Please see the information page and list of important dates.](http://www.rista.us/resources/JSHS%20one%20pager%20Revised%20Dec15%20FINAL.pdf" \t "_blank)

Design and Launch your DNA Experiment to Space!

We invite students in grades 7 through 12 to design DNA experiments for space.  Become a space DNA pioneer and help solve real-life space exploration opportunities and challenges. Five finalist teams will receive mentoring from Harvard and MIT PhD scientists, present at the 2016 International Space Station R&D Conference, and receive miniPCR DNA Discovery Systems for their education institutions. Winners will attend Space Biology Camp at New England Biolabs and --- send their DNA experiment to space!  **Submission deadline is April 20th 2016.**

Teachers - turn contest submissions into a [class assignment](http://genesinspace.org/Genes-in-Space_Classroom_Assignment.pdf" \t "_blank) that's aligned with standards. [www.genesinspace.org](http://www.genesinspace.org/" \t "_blank) Genes in Space is a partnership between miniPCR, Boeing, Math for America, CASIS, and New England Biolabs. The contest is free, and does not require equipment.  Proposals will be judged solely on their creative and scientific merit.

National Youth Science Camps

The NATIONAL YOUTH SCIENCE CAMP is an honors program for two high-achieving high school students from each state in the United States and others from around the world. This residential summer experience is held in a rustic setting in West Virginia’s eastern mountains and has honored and challenged over 5,000 participants since it began in 1963.  Application Deadline is **February 17, 2016**

GOALS

* Honor high-achieving science-oriented students
* Introduce new scientific topics, especially those not typically covered in traditional secondary curriculum
* Encourage lifelong learning in science, technology, engineering, and mathematics
* Demonstrate relationships among the sciences and between science and other disciplines
* Prepare students to face challenges of college, career, and life-long education
* Develop creativity, instill self-confidence, and foster camaraderie among future leaders

More information is at [https://nysc.fluidreview.com/](https://nysc.fluidreview.com/" \t "_blank)

[Printable Handout](http://www.rista.us/resources/Documents/NYSC%20Handout%202016%20RS.pdf" \t "_blank)

RESEARCH SCIENCE INSTITUTE (RSI)

The Center for Excellence in Education (CEE) and Massachusetts Institute of Technology (MIT) co-sponsor the Research Science Institute (RSI) and are looking for talented 11th Grade STEM Students! Do you have an interest in Science Technology Engineering or Mathematics and a desire to complete a research program at an unforgettable summer research program?

Apply to the (RSI) program to be held on the MIT campus June 26 to August 6, 2016. You will meet some of the world's most talented students and top scientists and have an opportunity to conduct research in exciting labs!  The program is free to students except for travel to and from MIT. If you are a high school junior and interested in the program, take a look at the CEE website or RSI application materials, and more information about the program.

See application information at:  [http://www.cee.org/apply-rsi](http://www.cee.org/apply-rsi" \t "_blank)

If you’re interested and have any questions, please contact Maite Ballestero, Executive Vice President, Programs & Administration, maite@cee.org.  See us on Facebook - look for Center for Excellence in Education!

DNA Day Essay Contest

Help bring DNA Day into the classroom by submitting your students’ essays to the American Society of Human Genetics’ [DNA Day Essay Contest](http://www.ashg.org/cgi-bin/rda.pl?u=101&e=2261" \t "_blank)

Our submission site will open in early January, with **submissions due March 11 at 5:00 pm U.S. Eastern Time.**  This year we’re asking students to describe a genetic test of their choosing, then defend or refute a recommendation made in our recent position statement on pediatric genetic testing.

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| --- |
| ***2016 Question***  *Choose a genetic test that is currently available for a condition or disease that does not cause symptoms until adulthood (i.e., an adult-onset condition such as hereditary breast cancer). Describe how the test works and how certain the test results are. Then, either defend or refute the recommendation below from* *[ASHG’s recent position statement on pediatric genetic testing](http://www.ashg.org/cgi-bin/rda.pl?u=102&e=2261" \t "_blank)*  *"Adolescents should be encouraged to defer predictive or pre-dispositional testing for adult-onset conditions until adulthood because of the complexity of the potential impact of the information at formative life stages."* |

**Students can win up to $1,000 with a matching $1,000 lab equipment grant for their teacher!** We will award prizes to 1st, 2nd, and 3rd place winners, as well as 10 honorable mentions. Each teacher is invited to submit up to six essays per class, for up to three classes.

We hope you can build this essay into your teaching plans and look forward to reading your students’ insightful essays. Please email dnaday@ashg.org if you have any questions.