

Aerospace Education Newsbrief

from

CIVIL AIR PATROL

The purpose of CAP's AE program is to infuse the aerospace theme in youth development programs to perpetuate an interest in and knowledge about science, technology, engineering, and math (STEM) subjects and careers...

CAP provides a monthly AE e-Newsbrief for those interested in promoting aerospace/STEM education to the membership of CAP and to the general public. This is an easy one-stop location for current AE/STEM news, contests, grants, web sites, workshops, and information to share with your organization. It is hoped that at least ONE informational item will be useful in inspiring the next generation of aerospace enthusiasts and national STEM workforce. To communicate with the CAP National Headquarters Aerospace Education team, contact ae@capnhq.gov

Stay attuned to CAP AE Quarterly Newsletters and monthly e-Newsbriefs by signing up for convenient notification service at http://www.capmembers.com/aerospace_education/stay_informed/ae_newsbriefs.cfm.

If you would like to receive an automatic notification whenever new information is added to CAP's "AE: What's New?" page, go to www.capmembers.com/ae and click "AE: What's New?" Go to page bottom and follow the instructions.

December 2012

HOT NEWS AND OPPORTUNITIES...

- HOT! 2011-2012 CAP AEX Report Deadline is December 31st, 2012** – The deadline for submitting the 2011-12 Aerospace Education Excellence (AEX) Award report is **December 31st**. AEX activities for this report should have taken place between **October 1, 2011** and **September 30, 2012**. Now, it is time to register for AEX 2012-2013! For info, teachers go to www.capmembers.com/aex and CAP Units click [here](#) ----- or contact Debbie Dahl at ddahl@capnhq.gov.
 - Cyber Security News and CyberPatriot Program Updates from the Air Force Association-** Check out the great cyber information in the latest edition of the Air Force Association's [CyberSentinel monthly newsletter](#).
 - Join CAP AE on Facebook!** – Keep up with the latest information and hottest links in AE by going to CAP's AE FACEBOOK page at <http://www.facebook.com/pages/CAP-Aerospace-Education/160129457350501>.
 - CAP Educator Air Force Association AE Grant Recipients Announced-** Due to the generous financial support of the AFA, 16 CAP educators have received \$250 grants to promote aerospace and related careers. A *very competitive* grant selection process is demonstrating a sense of enthusiasm toward the promotion of aerospace/STEM education in CAP units and schools. CAP Aerospace Education Officers and teacher members across the country are initiating quality programs to enhance AE in their units, schools and youth organizations. CAP is very appreciative to the AFA for the continuous support of CAP's AE/STEM initiatives. To view the fall quarter educator grant recipients, click [here](#).
- **DECEMBER 31 DEADLINE!** The next AFA grant cycle is for [units](#). Click on and complete the application for *units* by December 31, 2012. For info: afa@capnhq.gov.
(See associated grant photos at the end of this document.)

5. **NEW! 19th Annual Space Exploration Educators Conference** – This conference is for grades K-12 educators as well as others with an interest in space education for young people. The conference will be held **February 7-9, 2013**, at Space Center Houston in Houston, Texas. To find out about registration and hotel information, visit <http://www.spacecenter.org/teacherssec.html>.
6. **NEW! Keeping the Wheels Turning: Registration Open for 20th Annual NASA Great Moonbuggy Race** – The Great Moonbuggy Race will be held at the U.S. Space and Rocket Center in Huntsville, Alabama, on **April 26-27, 2013**. This race challenges high school, college, and university students around the world to build and race fact, lightweight “moonbuggies” of their own design. Registration for U.S. teams closes **February 4**. For complete rules and to register, visit <http://moonbuggy.msfc.nasa.gov>.
7. **NEW! 2012 OPTIMUS PRIME Spinoff Video Contest** – NASA has opened registration for the 2012 OPTIMUS PRIME Spinoff Video Contest. The contest highlights spinoffs from NASA technologies that are used on Earth. Students submit a three- to five-minute video on a selected NASA spinoff technology listed in NASA’s 2011 “Spinoff” publication. Participants must register for the contest by **December 15, 2012**. For more information, visit <http://www.nasa.gov/centers/goddard/news/releases/2012/12-077.html>.
8. **NEW! NASA Seeks Student Experiments For 2013 High-Altitude Scientific Balloon Flight** – NASA is accepting applications from graduate and undergraduate university students to fly experiments to the edge of space on a scientific balloon next year. The balloon competition is a joint project between NASA and the Louisiana Space Consortium (LaSPACE) in Baton Rouge. The deadline for applications for the 2013 flight is **December 14**. For application materials and details about this, visit <http://laspace.lsu.edu/hasp>.
9. **Satellite Tool Kit (STK) for the Classroom** – Analytical Graphics, Inc. (AGI) is offering the leading satellite software package to CAP’s members at no cost. This program is an awesome program to educate adults and youth about the awesome work of satellites. For licensing and to receive your disk, contact Dr. Jeff Montgomery at jmontgomery@capnhq.gov. Review more information about [STK and CAP’s aligned educational implementation initiatives](#).
New Licensing Procedure Makes Using STK Easier Than Ever – This new procedure will offer every CAP member (cadet, senior member, or teacher member) the opportunity to use STK anywhere, anyplace, anytime. A member can log in to AGI from any computer anywhere and begin using STK. So, members can use STK at the squadron, in the classroom, or at home. You can also obtain multiple licenses for your squadron or classroom setting. To read the new procedures and find out how easy the new process is, go to www.capmembers.com/ae and click on the “[AE: What’s New?](#)” link. Scroll down to “Other Announcements” and click on the second bullet to find out about this new guidance. Check out more info about STK [HERE](#).
10. **New Schedule! Satellite Tool Kit (STK) Users’ Conference Tour Presentations Available**– Analytical Graphics, Inc. (AGI), makers of STK, has coordinated their new tour to provide STK training in locations across the country. The one-day free training tour leads participants to a better understanding of how to use the STK software available free to CAP members. For more information, visit <http://www.agi.com/training/#12>.
11. **NEW DECEMBER LISTINGS! Look for the latest offerings on NASA TV** – The December NASA Television Education File Schedule (beginning December 1st) can be found at <http://www.nasa.gov/audience/foreducators/topnav/schedule/index.html>. NASA TV’s main site can be located at <http://www.nasa.gov/multimedia/nasatv/index.html>.

- 12. CAP Partnership With Academy of Model Aeronautics (AMA)** – The AMA and CAP have a synergistic partnership initiative to promote model aeronautics to youth. Go to <http://www.youtube.com/watch?v=3XJa2naDa5Q> to watch an 8-minute video clip which has a nice introduction to the history of CAP, along with a brief explanation of CAP's three missions near the end of the video. **AMA is offering a FREE membership to CAP cadets** (under the age of 19), as well as access to the many clubs and experts in model aeronautics available to assist cadets and units in furthering the model aeronautics experience. To receive the free membership and find out more about what the AMA club nearest you has to offer, visit the AMA website at <http://www.modelaircraft.org/membership/clubs.aspx>.
- 13. FREE AOPA Memberships for Cadets and Other Youth-** AOPA (Aircraft Owners and Pilots Association) “AV8RS” is a youth membership that is free to teens aged 13 - 18. Membership includes a digital subscription to *Flight Training* magazine, access to members-only content on aopa.org, special AV8RS social communities through Facebook, YouTube, Twitter, and tumblr, a dedicated AV8RS blog, opportunities to win flight training scholarships, and more! For more, visit www.aopa.org/av8rs.
- 14. Team America Rocketry Challenge (TARC) and News from the National Association of Rocketry (NAR) – Registration Now Open!**
- The 2012 national competition has ended and preparations are in place to launch a new year of rocketry challenges. Find out information at <http://www.rocketcontest.org/>. Register at http://www.rocketcontest.org/rules_2013.cfm.
 - NAR is working on developing a training and certification program aimed at providing primary and secondary teachers with the knowledge and skills needed to make use of model rockets in their classrooms. This will enhance the STEM curricula in the school. Those completing the NAR program will be recognized by the NAR as official “rocket teachers.” NAR needs input from teachers on what should be included in this program. NAR is also looking for a catchy name for this program. If you have any ideas on this please contact Jonathan Sivier at jsivier@illinois.edu.
- 15. Current Events on NATCAP Aerospace Daily** – The CAP National Capitol Wing in Washington, D.C. has a website that keeps up-to-date events concerning aviation and space on the following link: <http://paper.li/NatCapWing/aerospace>.
- 16. Know a Teacher or Leader of a Youth Organization Who Could Benefit from a CAP Aerospace Education Membership (AEM)?-** Please share information found at www.capmembers.com/ae with those interested in promoting STEM subjects and careers to K-12 youth across our country. With over 30 free K-12 products and programs, to include the unique Teacher Orientation Program (TOP) Flight, this special category of membership requires no meetings, no uniforms, and no progression in rank---only an interest in inspiring youth toward aerospace! For an 11-minute video explanation of the AEM program, go to the AEO Resources link at www.capmembers.com/ae where the AEM video is at the bottom of the page. To join online, educators can go to www.capmembers.com/joinaem. **(Civil Air Patrol members and teachers: Join hands with your area AFA chapter wherein AFA chapters can offer complimentary AE (teacher) memberships to perpetuate the AFA AE mission using CAP’s aerospace and cadet programs. To find an AFA chapter near you, go to www.afa.org and click on the top “chapters” link and then select your state to find connections to CAP, AFA, JROTC, and ROTC groups.)**
- 17. NASA Kids’ Club Games and Activities** – The NASA Kids’ Club has recently added new games and activities just in time for summer’s end and preparation for honing school skills! See what is available by visiting <http://www.nasa.gov/audience/forkids/kidsclub/flash/index.html>.

- 18. Air Force Association (AFA) Opportunities for CAP** - To find out all of the opportunities for grants and awards provided CAP members by the Air Force Association, click on the AFA Partnership link on the CAP AE Website at www.capmembers.com/afa. CAP, in return, provides complimentary memberships and Teacher Orientation Program (TOP) Flights to AFA State and Chapter Teachers of the Year and a special sponsorship opportunity for other teachers working with local AFA Chapters. CAP members are encouraged to become members of their local AFA Chapters to synergistically promote aerospace education throughout our nation.
- 19. AFA's CYBERVILLE Game!** – The Air Force Association's Facebook cyber game called "CyberVille" can be found by logging on to Facebook, and then navigating in a browser to <http://apps.facebook.com/cyberville/>. This game uses strategy and a quick hand on the button to repel waves of ugly make-believe cyber attackers who try to hack cell phone systems, bank accounts, and the local electric company. The game does a great job at a concept level of showing how pervasive cyber systems are, and how much is at risk if we don't practice cyber security. CyberVille is also designed to draw a broad audience to this STEM program, as well as offer the opportunity to learn more about CyberPatriot by following a link to the AFA website www.afa.org.
- 20. AFA Museum Initiative-** The AFA is trying to locate aviation and/or space museums around the country with which to partner in conducting educational outreach programs to promote STEM subjects and careers. CAP is partnering with the AFA to provide educational products and programs to museums wishing to become involved in youth outreach initiatives. For more information, check out the [AFA Museum Initiative](#) link at www.capmembers.com/afa or contact afa@capnhq.gov with information about a museum near you that might be interested.
- 21. STARBASE Academies Provided Class Sets of CAP AE Materials!**- DoD STARBASE Academies across the nation are provided class sets of AE materials that embed a Drug-free Awareness message to all classes attending the academies, courtesy of the CAP AE and Drug Demand Reduction Program. Also, in an effort to perpetuate the STARBASE STEM focus for classes when they return to their schools, the CAP has partnered with STARBASE to provide AE products and programs to the teachers in the school systems near the academy. For more information, contact sb@capnhq.gov and/or check out the STARBASE link at www.capmembers.com/sb.
- 22. Student Competition for Real-World Learning in STEM Concepts** – Toshiba/NSTA ExploraVision, the world's largest science competition, brings real-world learning together with problem-solving, critical thinking, collaboration, and recognition to win great prizes. This competition is for grades K-12 and encourages students to think about what today's inventions will look like tomorrow. Registration is open and **entries are due January 31, 2013**. To find out more, visit <http://exploravision.org>.
- 23. Perennial Math Online Competition** – Check out this online math competition for grades 3-8 at www.perennialmath.com.
- 24. NASA OPPORTUNITIES** for the education community:
- **American Meteorological Society's DataStreme Earth's Climate System Professional Development Course** – The American Meteorological Society, with support from NASA and in partnership with the State University of New York's College at Brockport, is developing a national cadre of K-12 teachers highly trained in climate science and familiar with climate modeling. The course is free to all participants, and the teachers are awarded three graduate credits upon successful completion of the course. The spring course begins on **January 14, 2013**. For more information, including a listing of course offerings by state, and an application form, visit <http://ametsoc.org/amsedu/ECS/index.html#participates>.

- **Free Smithsonian's Stars Lecture Series** – Visit the Smithsonian for a series of 10 lectures by Smithsonian researchers who are exploring the sun, the moon, planets, stars, galaxies, and the universe. Each lecture begins at 5:15 p.m. and is followed by a question-and-answer session. A Discovery Station activity will take place at 4 p.m. prior to each lecture. For more information about the Smithsonian's Stars Lecture Series, visit <http://airandspace.si.edu/events/lectures/stars/index.cfm>.
- **Registration Open for NASA Explorer Schools Project** – Registration is open for educators of grades 4-12 to join the NASA Explorer Schools project. NES provides a forum for accessing free lessons, student engagement activities, and professional development opportunities centered on NASA missions and science, technology, engineering, and mathematics topics and careers. Just complete the online NES registration form to begin. For more information, visit the NES website at <http://explorerschools.nasa.gov>.
- **NASA's ISSLive! Website** – *ISSLive!* is an innovative, interactive Web-based initiative that provides a novel way to learn about the International Space Station. To find out more, visit <http://spacestationlive.jsc.nasa.gov>.
- **Download the New "Satellite Insight" Game** – "Satellite Insight" for iPhone and other Apple iOS devices is now available on iTunes. It's free and challenging. To find out more, visit <http://spaceplace.nasa.gov/iOS/>.
- **WARNING!!!** Recently, an air pressurized paper rocket launcher being used by an educator failed. This launcher is described in NASA's Rockets Educator Guide, publications EG-2011-11-223-KSC, pp. 86-90 and EG-2008-05-060-KSC, pp. 86-90. NASA completed an engineering investigation into the failure and determined that the launcher, or design equivalents, should not be used. NASA has removed the launcher design from its website and its education curriculum. Individuals and organizations should immediately discontinue use of the launcher published in the referenced NASA publications. The point of contact for additional information is James Stofan, Deputy Associate Administrator for Education Integration at nasaedpartners@nasa.gov.
- **What's New At NASA's Space Place** – Space Place (K-6 educators) has a new look and new features. Look for: resources available in Spanish; careers of passionate NASA scientists and engineers; image gallery; new activities; "special days" information and activities; and more...To find out more, visit <http://spaceplace.nasa.gov/>.
- **Astronaut Don Pettit Demonstrates Science Concepts in "Science off the Sphere" Video Series** – NASA and the American Physical Society, or APS, have entered into a partnership to share unique videos from the International Space Station with students, educators, and science fans around the world. NASA astronaut Don Pettit will use everyday objects from Earth to demonstrate physics through the "Science off the Sphere" video series. For more information and to view the science demonstrations, visit <http://www.physicscentral.com/sots>.
- **New Content on NASA's Math and Science @ Work Website** – This project provides activities teachers can download for use in high school advanced-placement mathematics and science courses. There are more than 30 activities that will engage students in physics, chemistry, biology, calculus and statistics while giving them insight into NASA's programs, projects and careers. To download the free Math and Science @ Work activities, visit <http://www.nasa.gov/education/mathandscience>.
- **NASA Students on Facebook: New Page** – The NASA Students on Facebook site has moved to a new page within Facebook. To receive daily updates on Facebook, please visit the page the hit the like button located toward the top of the page. The student Facebook page highlights opportunities open to students in grades 9-12 and above and broadcasts information regarding feature articles, podcasts, videos, and more that might be of interest to high school and college groups. If you have the old site bookmarked, that link will no longer contain updated information. Please change to the new address: <http://www.facebook.com/pages/NASA-Students-at-www.nasa.gov/176813089042984?v=wall>.

MORE AE OPPORTUNITIES AND INFO.....

- 25. CAP Aerospace Education Members (AEMs) and Senior Members who are teachers can take to the skies!** Find the key to inspiring your students to want to learn more in your classroom this year! Take a CAP Teacher Orientation Program (TOP) Flight in a CAP airplane. Contact Judy Stone at jstone@capnhq.gov to connect YOU with your state's volunteer Director of Aerospace Education (DAE) who can help make the **TOP Flight** a reality for you! Experience this unique opportunity that will lift your spirits and your mind toward innovative ways to inspire and motivate your students toward science, technology, engineering and math (STEM) subjects and careers!
- 26. NEED AE ASSISTANCE? Contact a CAP Aerospace Education Officer (AEO) to Assist YOU in AE Initiatives!**- CAP has a current roster of each state (wing) volunteer Director of Aerospace Education (DAE) and volunteer Regional Deputy Chief of Staff/AE with contact information for assistance in the implementation of AE activities with cadets, youth in schools and organizations, and teachers. The volunteer AE Officer roster is found at the bottom of the page at www.capmembers.com/ae. Air Force Association members, and other organizational persons interested in promoting AE in their communities, should work with their area DAE who will direct them to local AEOs for assistance! For any AEO within CAP who wishes to assist in AE initiatives, contact the National AE Advisor to the National Commander, Lt Col Mike McArdle, at michael.mcardle@att.net. To work with any AE staff member of the National Headquarters, located at Maxwell Air Force Base, contact ae@capnhq.gov.
- 27. CAP Aerospace Education Offers CAP-TERS Program** – CAP satellite imaging program aligned with geography, as well as the information on airports found in Module 2 of Aerospace Dimensions. The Civil Air Patrol Teachers Educational Remote Sensing program (CAP-TERS) was developed in an effort to combine satellite imagery, an imagery viewer, and lesson plans into a single location for use in any educational setting. This program also offers teachers or Aerospace Education Officers a viable tool to teach geography and aerospace education in an interesting and relevant hands-on format. To find out about the program, go to the “AE: What’s New?” link on the AE Website, www.capmembers.com/ae.
- 28. College- level AFROTC Arnold Air Society (AAS) and Silver Wings (SW) teams use CAP AE programs to mentor students in their STEM Outreach Program-** The AAS/SW Joint National Project this year is STEM Outreach. *This program is endorsed and supported by the Air Force Association and CAP, so AFA chapters and/or CAP units should try to connect with these dynamic college students to help them promote the AE and STEM mission in AFA and CAP!* Using the free curriculum and educational materials provided by CAP, these exemplary college students are making a difference in the lives of young students all across America working in classrooms, in community-based youth organizational programs, and even their own community events to share the principles of flight, rocketry, and other aerospace concepts with elementary students. Their purpose? Expose young people toward much-needed STEM career paths via engaging and exciting aerospace activities. For more information on how to connect, go to <http://arnold-air.org/aas/> and find an AAS unit or SW chapter near you. Or, go to www.afa.org and click on the chapters link at the top and then click on your state for AFA, CAP, JROTC, and ROTC connections. For more information, check out the [AAS/SW](http://www.capmembers.com/afa) link at www.capmembers.com/afa and/or contact afa@capnhq.gov.

- 29. NASA Reveals New Batch of Space Program Artifacts for Loan** – NASA is inviting eligible education institutions, museums, and other organizations to examine and request space program artifacts online. Requestors should not talk directly to NASA. To find out about eligibility and procedures to access the module, visit <http://www.nasa.gov/transition>.
- 30. Note from CAP's Michael Murphy** – A good website to look up airports, nav aids, current weather info, as well as Sectional charts in a Google-map format where you can pan, zoom in and out, are included at <http://www.airnav.com/>. Another good aviation site is <http://www.pilotoutlook.com>.
- 31. Music and Astronomy Under the Stars** – Join Dr. Donald Lubowich, coordinator of the Astronomy Outreach Program at Hofstra University in New York, for a series of events bringing astronomy to the public. Those attending the concerts will get a glimpse of the stars. To find out more information and see a full schedule, visit http://www.hofstra.edu/Academics/Colleges/HCLAS/PHYSIC/physic_underthestars.html. Last show is October 26.
- 32. National Science Teachers Association (NSTA) Offers Many Resources at No Charge** – Check the NSTA web site for free educational offers, as well as specific offers for members of NSTA. Visit <http://www.nsta.org/> and search on the left-side menu link “NSTA Learning Center.”
- 33. Host a “From Earth to the Solar System” Exhibit** – Celebrating NASA’s Year of the Solar System, this exhibit is a collection of high-resolution images that showcase the excitement of planetary exploration. This collection is freely available to organizations worldwide to use to host their own exhibitions. Tips for the success of downloading and using these images are included on the website. For more information, visit <http://fettss.arc.nasa.gov>.
- 34. Link to NASA’s Virtual Skies Available on CAP AE Web site** – NASA has released the revised Virtual Skies program that introduces the key concepts in the world of aviation in six independent modules. Recommended for high school students and used by other educational audiences, Virtual Skies helps students acquire and employ decision-making and collaborative skills while applying principles of algebra, geometry and calculus in each of these modules. To link to this useful site, go to www.capmembers.com/ae and click on “[Lessons and Other AE Resources](#).” The link will be on the page for the “[Planes](#)” resource box.
- 35. NASA and You – NASA y Tu’ Website** – NASA and Univision Communications Inc. have launched an on-air and online initiative to help engage Hispanic students. The NASA and You website inspires Hispanic students to pursue careers in science, technology, engineering, and mathematics (STEM). The site features videos and information in both Spanish and English. The Website also includes information on educational opportunities for students. To view, visit <http://www.nasa.gov/audience/forstudents/nasaandyou/home/index.html>.
- 36. National Space Biomedical Research Institute** – This institute focuses on the effects of long-term spaceflight on the human body and how to counter any negative effects it might have. The institute provides educators with valuable teacher activity guides on Bones and Muscles, Food and Fitness, and Sleep and Daily Rhythms. To find out more about NSBRI go to <http://www.nsbri.org>. The link can be found at <http://www.nsbri.org/Education/Materials.html>.
- 37. NASA Opportunities for the Education Community**
- **NASA Education’s Act Now page highlights upcoming NASA opportunities available for teachers and students** – Visit the website at <http://www.nasa.gov/audience/foreducators/topnav/actnow/index.html>.

- **DOWNLOAD NOW! 'Museum in a Box' Flight Science Lessons** – NASA's Aeronautics Research Mission Directorate has been busy adding to and updating nearly all the Museum in a Box lesson plans over the past few months. Currently there are 32 lessons available that span grade levels K-12. Lessons can be downloaded at <http://www.aeronautics.nasa.gov/mib.htm>.
- **Electronic Professional Network Courses** – NASA's Learning Environments and Research Network and the Georgia Institute of Technology have teamed up to create the electronic professional development network, or e-PDN, and initiative dedicated to preparing K-12 teachers to engage their students in science, technology, engineering, and mathematics, or STEM, through the use of NASA-developed learning materials and resources. Apply to one of the free courses today! Find out about the course choices and other information by visiting <http://nasaepdn.gatech.edu>.
- **NASA Education Materials Featured on the Howtosmile.org Website** – Launched by the University of California, Berkeley's Lawrence Hall of Science, the Howtosmile.org Website is an online collection of thousands of hands-on interactive science and math activities dedicated to making learning exciting and engaging for everyone. All activities are freely accessible and never require a registration or subscription. Visit this new Website at <http://howtosmile.org>.
- **Rocketry Page for Educators and Students (All Educators and Students)** – NASA Website <http://www.nasa.gov/education/rocketry> will get students and educators off the launch pad and on their way to becoming rocket scientists. Educators can find lesson plans for the classroom and keep students in-the-know with up-to-date information about NASA-supported rocketry competitions. NASA has a new DIY podcast topic module called: Rocket Science. The topic module includes 33 video clips with NASA Launch Vehicle Systems Analyst, Tristan Curry, as well as historical footage of rockets and shuttle launches, and animations. To find out how to use these resources and build your own multimedia projects, visit <http://www.nasa.gov/audience/foreducators/diypodcast/index.html>

38. MORE NASA Opportunities:

- **NASA Invites Young People to Take Virtual Space Station Spacewalks** – A new video game based on actual work astronauts performed during the course of several NASA missions is available online. To take a virtual spacewalk in the Station Spacewalk game, visit http://www.nasa.gov/multimedia/3d_resources/station_spacewalk_game.html.
- **NASA's Tool for Visualizing Distance-Rate-Time Problems** – NASA has an interactive online tool that enables students to simultaneously visualize and manipulate three linked representations of a distance-rate-time problem. The side-by-side tool format features two airplanes (each flying at a constant speed) on merging jet routes, the corresponding distance-vs.-time graphs, and the corresponding linear equations. The free classroom materials include the tool, student workbooks, assessments, teacher guides, and alignments to grades 5-9 mathematics standards for all 50 states. This is an addition to the Smart Skies mathematics investigations. Visit <http://www.smartskies.nasa.gov/flyby>.
- **NASA Sponsors Odyssey of the Mind Long-Term Problem -- Weird Science-**
Audience: All Educators and Students- Odyssey of the Mind is an international educational program that offers creative problem-solving opportunities for students from kindergarten through college. Participants apply their creativity to solve problems that range from building mechanical devices to presenting their own interpretation of literary classics. The teams then bring their solutions to competition on the local, state and international levels. This year's NASA-sponsored problem requires teams to create and present a performance about a team of scientists on an expedition to uncover the cause of mysterious events. The performance must include a technical representation of the mysterious events, a moving backdrop that helps portray traveling and a team-created device that the scientists use on the expedition. For more information and to find dates for regional competitions, visit <http://www.odysseyofthemind.com/> or e-mail info@odysseyofthemind.com.

- **New NASA Website Aims to Engage and Educate Advanced High School Students** – NASA's Math and Science @ Work project offers challenging supplemental problems based on space exploration topics. This project engages students by providing real-world applications to promote critical thinking and problem-solving while exposing students to careers in space exploration. These problems are for grades 10-12 and are available for calculus, physics, biology, chemistry, U.S. history, and human geography. Visit the Math and Science @ Work Web site at www.nasa.gov/education/mathandscience.
- **Online Training for Teaching Hands-on Engineering Activities with NASA and DESIGN SQUAD** – An online workshop has been developed for educators and after school leaders to build their skills and confidence in guiding kids through engineering activities like those found in the On the Moon Educator Guide from NASA. For more information go to <http://pbskids.org/designsquad/parentseducators/workshop/welcome.html>.
- **NASA Launches Careers Web Page** – NASA Education has launched a Webpage that serves as a starting point to learn about jobs at NASA. Visit the site to learn more about scientists, technical experts, engineers, mathematicians, physicists, accountants, astronauts, pilots, astronomers and experts in many other fields. Visit the new NASA Education Careers Webpage at <http://www.nasa.gov/education/careers>.

39. Connect with The Space Place and SciJinks through Facebook and Twitter –

>The Space Place is an extensive, content-rich Website from NASA for upper elementary-age kids and their teachers and parents, and anyone else who likes a simple, readable, fun presentation of a wide range of space and Earth science and technology topics – <http://spaceplace.nasa.gov>. (On Facebook, <http://facebook.com/nasaspaceplace> and on Twitter, <http://twitter.com/nasaspaceplace>.)

>SciJinks is a highly-interactive Website that provides middle-school students and audiences of all ages an amazing science education opportunity. Provided by NOAA and NASA, the web site transports visitors to the wild world of weather to learn about predicting global weather patterns – <http://scijinks.gov>. Facebook- <http://www.facebook.com/scijinks> and Twitter- <http://twitter.com/scijinks>)

40. Lockheed Martin, the Space Foundation and SpaceClass Has Launched a Strategic

Online Education Collaboration Called *Orion's Path*- *Orion's Path* is an interactive lesson on SpaceClass -- the only Web-based education program using videos and virtual science labs to engage students in research being conducted for space exploration. Lesson contents meet National Learning Standards for middle school grades and use of the site is free to teachers. To sign up, go to <http://www.spacefoundation.org/education/resources/online-tools-and-programs/orions-path-online-science-lab> .

INFORMATION FOR CAP AEROSPACE EDUCATION OFFICERS (AEOs)

41. CAPP 15 and CAPP 215 online– The CAPP 15 (Aerospace Education Officers Handbook) and the CAPP 215 (AE Specialty Track) are online under the forms and publications link at www.capmembers.com. The 215 Specialty Track tests are online, as well, under CAP University (online courses and exams link).

42. CAP Aerospace Education Member (AEM) contact information – CAP Region and Wing Commanders, DCS/AEs, and DAEs in each region and wing have accessibility to the names and contact information of Aerospace Education Members in their wings and regions. We would like you to know who these outstanding people are so you can invite them to AE workshops and teacher flights and any other relevant programs that would apply to Aerospace Educators for your area. This information can be found in e-services under Member Reports and Aerospace Education links and requires permissions received from your commander.

43. CAP Teacher Orientation Program (TOP) Flights – Aerospace Education Officers: you can invite current AEMs (Aerospace Education Members), as well as new teachers to join as AEMs, to share in an exciting Teacher Orientation Program (TOP) Flight and workshop that will help them get their students excited about aerospace. Remember to keep the Wing Commander and your wing POC (usually the Director of Aerospace Education) informed and supportive of your efforts. Please contact Judy Stone at jstone@caphnq.gov to discuss your plans (number of teachers flying, date, and estimated cost) prior to actual flights. For more information, go to the Teacher Orientation Program (TOP) Flights section at www.capmembers.com/ae. **NOTE: Remember that CAP pilots flying the TOP Flight missions must be commercially certified and hold a current class 2 medical.**

44. Yeager Test Information for CAP Directors of Aerospace Education (DAEs): **NOTE: Senior Members taking the Yeager test need only take and pass one of the two tests provided on the Yeager test site. The second test is for those who may need to take the test a second time to receive credit for passing.** After successfully passing the test online, CAP senior members will automatically have the accomplishment posted to his/her records and the Yeager Certificate will be available for download as a pdf. (NOTE: A Form 127 and CAPC 20 are only needed if the exam is taken with pencil/paper.) This process streamlines the CAP Yeager test process and makes the reporting easier for all concerned. **DAEs can track which wing senior members have taken and passed the online test by logging in at [e-services](#) and going to “Test Reports” in the left column of the menu. This link is restricted to those who have specific permissions assigned to CAP region or wing HQ. If a DAE is not assigned to the wing HQ, he/she should contact the wing commander and ask for specific permissions via the Web Security Administrator.** Remember: This system has tracked the Yeager Award since March 2004, so all of the senior members who took the Yeager on paper before then were not tracked.

MORE AE INFORMATION FROM CAP.....

45. Scott Crossfield Foundation Web site: www.scottcrossfieldfoundation.org – To continue the legacy of famed pilot, Scott Crossfield, and CAP’s AE Award namesake, you can share memories of Scott Crossfield on this site. If you have a story to tell, you can go to the “Tell a Story” section and add your story. At this site, you may also make a donation to the foundation in order to maintain and perpetuate Scott Crossfield’s legacy to teachers.

46. CAP Aerospace Education materials can be ordered online! AEMs and AEOs can order the tools needed to promote the AE program in their local communities and schools. AEOs can receive a complete set of AE materials for presentation to prospective educators. **Order one copy** of each our materials via our online ordering system. Sign in at CAP’s e-services: <https://www.caphnq.gov>. Look on the far right column and find CAP Materials and click Submit Order. Select AE Materials from the drop down menu. Fill out the order form and the mailroom will process and fill your order. If an item is out of stock, check back soon, as new printing is being done at this time. If you need any further assistance, please contact ae@caphnq.gov.

47. The 2nd Edition of the CAP AE textbook, *Aerospace: The Journey of Flight*, and accompanying Teacher’s Guide is available for purchase through Vanguard Industries** – The book may be purchased for \$20.35 and the Teacher’s Guide may be purchased from [Vanguard Industries](#) for \$8.25. ****The textbook is also downloadable in [CAP e-services](#). After entering e-services, go to Aerospace Downloads and Resources in the left column and click there to see the textbook chapters.**

48. Aerospace Dimensions Modules – The six [Aerospace Dimensions](#) modules for Phase I and II cadets and for middle schools across America are online in e-services and can be purchased through [Vanguard](#).

49. AEX Certificate Template is on the AE web site at www.capmembers.com/ae and **click on the appropriate AEX link!** **2012 Aerospace Education Excellence (AEX) Award Program-** Make sure that YOUR unit or classroom participates and completes the AEX Award Program to receive a classroom/unit plaque and participant certificates. Any CAP unit or any K-12 teacher who is a CAP member can participate! Apply easily and electronically in CAP e-services. An email confirmation and AEX books will arrive soon after. To receive your unit or classroom plaque and participant certificates, simply fill out the electronic report on line upon completion of the program. To apply and report online, go to <https://www.capnhq.gov> and enter e-services with your password or follow the “first time user” steps to enter e-services. For assistance, contact Debbie Dahl at ddahl@capnhq.gov.

Thanks to EACH of you for promoting aerospace education to youth and the general public all across our great nation!

Sincerely, the CAP NHQ AE Team

Thanks to the **Air Force Association**
for Continuing Generous Sponsorship of
AE Grants for CAP Units and Teacher Members
to Conduct Projects That Promote AE/STEM Education Nationwide

Grateful Grant Recipients Below

**Donald McKeon, PhD, Aerospace Science Educator and CAP Aerospace Officer
North FL Rotary Camp for Physically Challenged, Tallahassee, FL
*STEM Career Exploration***

Thanks to the AFA for the grant to help conduct two one-week camps for youth with disabilities, giving them an opportunity to learn about how they can fit into aerospace/STEM careers. Leaders from the Rotary Club and Civil Air Patrol assisted in conducting the program.

The youth participated in hands-on CAP AE/STEM activities to help them explore a variety of aerospace careers before being given a survey of their career interests. Non-traditional career choices for persons with disabilities evolved.

A camper in a power chair said to his camp best friend as they crossed the field to do activities, ***“If I can pilot this chair on this kind of ground with all these holes, I can sure fly a drone!”***

This exemplifies the motto of the Royal Air Force:

***Ad Astra per Aspera
Through Difficulties to the Stars***

RESULTS OF STUDENT AEROSPACE CAREERS SURVEY

FIRST CHOICES

Aeronautical Engineer	15.50%
Astronaut	10.00%
Pilot	8.50%
Science Writer	8.50%
Mathematician	7.00%
Air Traffic Control	5.60%
Flight Attendant	5.60%
Air Security	2.80%
Patternmaker	2.80%
Less than 2 Select	33.70%

- Aeronautical Engineer
- Astronaut
- Pilot
- Science Writer
- Mathematician
- Air Traffic Control
- Flight Attendant
- Air Security
- Patternmaker
- Chosen by less than 2



**HAPPY CAMPERS
EXPLORED
AEROSPACE CAREER
CHOICES**





During an AFA Grant funded event with the Dover CAP Composite Squadron, Cadet Kaitlyn Felix learned to fly on a simulator and then on to flight lessons!

Seeds are planted when we make the effort to give young people “wings” through career exploration experiences.

**Everett Bennett, Major, CAP
Commander & AEO
Dover Composite Squadron
Dover, Delaware**

