

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 education to the membership of CAP and to the general public. This is an easy one-stop location for current AE 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 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-Newbriefs 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 our "AE: What's New?" page, go to www.capmembers.com/ae and click "AE: What's New?" Scroll to the bottom of the page and follow the instructions.

January 2012
Happy New Year!

HOT NEWS AND OPPORTUNITIES...

- 1. Register NOW for the 2012 Space Exploration Educators Conference** – Make plans to attend the 18th Annual Space Exploration Educators Conference (SEEC), to be held **February 2-4, 2012**, at Space Center Houston. This K-12 educator conference provides an array of activities and sessions demonstrating how to infuse aerospace education throughout the curriculum. Popular sessions fill fast, so register soon. Attendees can earn up to 24 hours of continuing professional education credit. **This is THE place to be if interested in aerospace education!** Meet like-minded educators and aerospace enthusiasts, take unique behind-the-scenes aerospace tours, learn from aerospace experts and experienced educators, listen to keynote speaking astronauts, and enjoy MAX-Q, the all astronaut band, at the closing banquet. For more information, visit <http://spacecenter.org/TeachersSEEC.html>.
- 2. FLIR Systems, Inc. supports CAP's ACE Program for second year-** CAP's impressive Aerospace Connections in Education (ACE) Program for CAP members who teach grades K-6 has received a second year financial support donation from [FLIR Systems, Inc.](http://www.flir.com), the global leader in Infrared cameras and night vision/thermal imaging systems. Jonathan Warren, FLIR Director of Air Force Programs, presented CAP Executive Director, Don Rowland, a check from FLIR for \$5,000. This donation will help provide ACE program components for about 2,000 of the almost 18,000 students participating in this year's program. CAP is pleased to have its aerospace programs recognized as worthy for industry donation and support. Read full article [here](#). For more information about ACE, go to www.capmembers.com/ace or contact ace@capnhq.gov.
- 3. The Air Force Association's CyberPatriot IV Program prepares for third round of competition-** The AFA's CyberPatriot program is preparing for the [final preliminary rounds](#) of competition: the final 38 teams in the [All Service Division](#) competition, comprised of cadets from all military services JROTC and Civil Air Patrol, will compete January 13; while the final 36

teams of the [Open Division](#), comprised of teams from public, private, parochial, and home schools, will be held January 27. **Read about the impressive CAP showing going into the final preliminary All Service Division category [here](#).** In all, more than 1,000 teams registered to participate this year. To find all details about the CyberPatriot program, click [here](#).

- 4. CAP UNIT AIR FORCE ASSOCIATION AE GRANT RECIPIENTS ANNOUNCED!** Due to the generous financial support of the AFA, 20 CAP units 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 education within CAP units nationwide. CAP aerospace leaders across the country are initiating quality programs to enhance AE in their units. CAP is very appreciative to the AFA for the continuous support to CAP's AE initiatives. To view the winter quarter unit grant recipients, click [here](#). The next AFA grant cycle is for CAP educators. Click on and complete the application for [educators](#) by March 31, 2012. The next cycle for the CAP [units](#) will be June 30, 2012. For info: afa@capnhq.gov. (See associated report and photos at the end of this document.)
- 5. CAP's AE Program team and the Federal Aviation Administration's Aviation and Space Education Program (AVSED) team renew alliance toward STEM education-** CAP and FAA both use aviation as the catalyst for motivation toward science, technology, engineering, and math (STEM) subjects and careers. The revitalized alliance between these two organizations will strengthen both organizations' STEM outreach initiatives for educators and youth. Click [here](#) for FAA/CAP MOU article. Click [here](#) for current FAA AVSED information. For information about either organization's current AE initiatives, go to the "AE: What's New?" link at www.capmembers.com/ae. **NOTE: For information on an upcoming FAA Teacher Workshop in Dallas, TX March 8, click [here](#).**
- 6. CAP Partners With Academy of Model Aeronautics (AMA)** – The Academy of Model Aeronautics (AMA) and CAP signed a Memorandum of Understanding (MOU) for 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>.
- 7. 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.
- 8. Air Force Association (AFA) Developing 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.

9. AFA's CYBERVILLE LIVE! – 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.

10. Team America Rocketry Challenge (TARC) 2012 and News from the National Association of Rocketry (NAR) –

- The National Association of Rocketry (NAR) also offers scholarships to members between the ages of 17 and 22 who are attending a college or vocational school. NAR also offers a teacher or educator who uses model rocketry in the classroom to apply for a \$500 grant to use for their program. Deadlines for applying for each of these are: **May 1st for the Scholarships and June 1st for the Cannon Award (teacher grants)**. Both of these programs are ongoing. For details on how to apply, go to <http://www.nar.org/cannon.html>.
- 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.

11. 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 Susan Mallett @ smallett@capnhq.gov and/or check out the STARBASE link at www.capmembers.com/sb.

12. NEW! 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>.

13. NEW JANUARY LISTINGS! Look for the latest offerings on NASA TV – The January NASA Television Education File Schedule (beginning January 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>.

14. NASA OPPORTUNITIES for the education community:

- **NEW! 2012 Summer Workshops – Climate Science Research for Educators and Students** – Educators in grades 9-12 are invited to attend the summer 2012 climate science workshops in New York City sponsored by the Institute for Earth Science Research and Education, in collaboration with Queens College/ City University of New York. The workshop will focus on understanding sun/Earth/atmosphere interactions and Earth's radiative balance, a fundamental concept for climate science. Applications are due **June 1, 2012**. For more information, visit <http://www.instesre.org/GCCE/GCCEHome.htm>.

- **NEW! STEM Video Game Challenge Is Under Way** – The 2012 National STEM Video Game Challenge is a multi-year competition whose goal is to motivate interest in STEM learning via video games. Entrants have until **March 12, 2012**, to submit their ideas and games. There are four levels for game designers: middle school; high school; college and graduate students; and educators. For more, visit <http://stemchallenge.org/Default.aspx>.
- **NEW! 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 Launches New 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>.
- **NASA's DEVELOP Program – 2012 Summer Session** – DEVELOP is a NASA Science Mission Directorate Applied Sciences-sponsored internship that fosters the training and development of students in the atmospheric and earth sciences. Students from the high school level are eligible to apply for this program. To find out more, visit <http://develop.larc.nasa.gov>. The deadline for the summer session applications is **January 30, 2012**.
- **Registration Open for the 19th Annual NASA Great Moonbuggy Race** – High School and college students are challenged to design and build a vehicle that addresses a series of engineering problems similar to those faced by the original lunar-roving vehicle team. The race will take place April 13-14, 2012, in Huntsville, Alabama. Teams must register by **February 10, 2012**. For more information, visit <http://moonbuggy.msfc.nasa.gov/index.html>.
- **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/>.
- **Electronic Professional Development 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, an initiative dedicated to preparing K-12 teachers to engage their students in science, technology, engineering, and mathematics, or STEM, through NASA-developed learning materials and resources. To find out the current listing of courses, visit http://nasaepdn.gatech.edu/nasa_certificates.php.
- **Astronomy Curriculum: Afterschool Universe** – Afterschool Universe is a hands-on astronomy curriculum targeted at middle school out-of-school-time settings. Developed in 2006 and rigorously pilot-tested and evaluated, the 12-session program explores basic astronomy concepts through engaging hands-on activities and takes participants on a journey through the universe beyond the solar system. To learn more about the program, visit <http://universe.nasa.gov/afterschool/>.
- **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/>.
- Learn about the Student Spaceflight Experiments Program by visiting the SSEP Mission 1 to ISS National Announcement of Opportunity at <http://ssep.ncesse.org/2011/07/immediate-historic-opportunity-for-schools-student-spaceflight-experiments-program-mission-1-to-the-international-space-station/> or e-mail jeffgoldstein@ncesse.org.
- **2012 NASA Space Settlement Design Contest** – Design a space settlement that is a permanent community in orbit! This contest is for 11-18-year-old students from anywhere in the world. Grades 6-8, 9-10, and 11-12 are judged separately, except for the grand prize. All participants will receive a certificate. Submissions must be received by **March 15, 2012**. For more, visit <http://settlement.arc.nasa.gov/Contest/>.

- **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 then 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>.
- **Solving the Challenges of Space in the RealWorld-InWorld** – Teams of middle-high school students, with support of their teachers/coaches/parents/mentors, work collaboratively as engineers and scientists to explore and design solutions related to NASA's James Webb Space Telescope and Robonaut 2. The RealWorld phase of this challenge runs from **September 1, 2011 to January 27, 2012**. To find out more, to include information about the InWorld phase, visit <http://www.nasarealworldinworld.org>.

MORE AE OPPORTUNITIES AND INFO.....

- 15. 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 under the yellow boxes 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.
- 16. 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](#). These new modules will also be included in all cadet new-member packets. Review the [procedural explanation](#) for cadets to transition to and use online testing for the newer modules. The new leader guides have been mailed to all educator members and cadet units.
- 17. 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!
- 18. 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 20 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, go to www.capmembers.com/joinaem. (For AFA Chapters who wish to sponsor teacher memberships, click on the AFA Partnership page at www.capmembers.com/afa.)

- 19. College- level AFROTC Arnold Air Society (AAS) and Silver Wings (SW) teams use the CAP ACE Program to mentor students in the Elementary STEM Orientation(ESO) Program and the Active America Program-** College AAS and SW students are to be commended for their efforts to provide mentoring and motivation toward STEM subjects and careers to elementary students across the nation. 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. AAS and SW teams have worked 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. Using the CAP's K-6 Aerospace Connections in Education (ACE) program, the students can learn about aerospace concepts that also include character education and physical fitness components which help students focus on being healthy, honest, and highly-qualified future contributing citizens of our country. The AAS/SW Joint National Project this year is entitled Active America. CAP's ACE Program's physical fitness component is being used promote the Active America project. **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 mission in AFA and CAP!** For more information about how to work with an AAS/SW group, go to: <http://arnold-air.org/joint-national-project/> and click on "Roster" to find an AAS unit or SW chapter near you. For more information, check out the ESO link at www.capmembers.com/afa and/or contact Susan Mallett at smallett@capnhq.gov.
- 20. 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://nasa.gov/kidsclub>.
- 21. CAP Aerospace Education Offers CAP-TERS Program –** CAP introduces a new 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.
- 22. 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>.
- 23. A New Era for NASA's Space Place –** NASA's science.nasa.gov/kids and spaceplace.nasa.gov have combined to provide several new Web features with interactive graphic design and easy, versatile navigation. The new site offers the best of NASA material for elementary school students. The site includes over 300 separate modules available in English and Spanish. The site is available at <http://science.nasa.gov/kids> or <http://spaceplace.nasa.gov>.

- 24. 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>.
- 25. 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.
- 26. 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>.
- 27. 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.”
- 28. 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 the “NASA and You” Website, visit <http://www.nasa.gov/audience/forstudents/nasaandyou/home/index.html>.
- 29. 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 to the teacher guides is <http://www.nsbri.org/Education/Materials.html>.
- 30. 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” topic.
- 31. NASA Opportunities for the Education Community** – NASA is offering several unique opportunities over the next few months:
- **Educational Materials Available at NASA.gov** – Items are available for downloading:
 - **High Flyers Alphabet Activity Book – Grades K-2**
<http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/HighFlyers.html>
 - **Why Do We Explore? Storybook – Grades K-4** –
<http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/WhyDoWeExplore.html>

- **Blue Marble Matches – Grades 3-12 –**
http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Blue_Marble_Matches.html
- **New Horizons Mission Student Dust Counter Lessons – Speaking Volumes About Dust – Grades 8-10**
http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Speaking_Volumes_About_Dust.html
The White Glove Test: Discovering Dust in the Solar System –
http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/White_Glove_Test.html
- **Flight Testing Newton’s Laws – Grades 9-12 –**
http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Flight_Testing_Newtons_Laws.html
- **NASA Launches the NASA Explorer Schools Project!** – This program connects middle or high school students in science, technology, engineering, and mathematics (STEM) classes to the exciting world of NASA exploration and discovery by providing teachers access to a variety of exciting, free NASA resources that will satisfy curriculum standards and stimulate learning of basic and advanced STEM concepts. To find out more and visit the NES Virtual Campus, visit <http://explorerschools.nasa.gov/>.
- **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 Education’s Website to get students and educators off the launch pad and on their way to becoming rocket scientists is available online. Educators can find lesson plans for the classroom and keep students in-the-know with up-to-date information about NASA-supported rocketry competitions. Visit the Website at <http://www.nasa.gov/education/rocketry>. 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>

32. MORE NASA Opportunities:

- **NASA Announces a New Tool for Visualizing Distance-Rate-Time Problems** – NASA has released 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 Enables Students to Launch Virtual Space Shuttle** – NASA has launched a computer simulation program that allows students and educators to take on the roles of NASA engineers and launch the shuttle from their own classrooms. Students work as a team to monitor shuttle systems during a launch countdown to decide whether they are “go” for liftoff. The software is the Kennedy Launch Academy Simulation System (KLASS), which was designed for 6th through 10th grade students to develop STEM skills. The KLASS

materials (software, lesson plans, and interactive resources) are available for download at <http://www.nasa.gov/education/klass>.

- **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.

33. And, More NASA Opportunities

- **NASA Education’s Act Now page highlights upcoming NASA opportunities available for teachers and students.** <http://www.nasa.gov/audience/foreducators/topnav/actnow/index.html>.
- **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 about this self-guided online workshop go to <http://pbskids.org/designsquad/parentseducators/workshop/welcome.html>.
- **NASA’s Electronic Professional Development Network (ePDN) Offering Podcasting Course** – This initiative is dedicated to preparing teachers to engage their students in STEM (science, technology, engineering and mathematics) through the use of NASA-developed learning materials and resources. The NASA ePDN Application Process is available for all teachers in grades K-12. To learn more about opportunities, credits, and the application process, go to www.nasaepdn.gatech.edu. Applications are being accepting for other courses in September. Visit http://nasaepdn.gatech.edu/nasa_certificates.php.
- **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 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>.
- **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.

34. 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>)

35. Lockheed Martin, the Space Foundation and SpaceClass Announced the Launch of 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.lockheedmartin.com/products/Orion/OrionsPath.html>.

36. Adams State College Offers Graduate Credit Opportunities for CAP Educators! Adams State College in Alamosa, Colorado, is offering graduate credit for completing specific requirements in association with CAP's Aerospace Education Excellence Program (AEX) lessons. See www.capmembers.com/ae for further information, or go directly to http://www2.adams.edu/extended_studies/independent/aex/aex.php. For further information, contact Dr. Jeff Montgomery at jmontgomery@capnhq.gov.

INFORMATION FOR CAP AEROSPACE EDUCATION OFFICERS (AEOs)

37. 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 <https://ntc.cap.af.mil/login.htm> 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.

38. 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).

39. 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>.

40. 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.**

41. 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.

42. 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.

MORE AE INFORMATION FROM CAP.....

43. 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.

44. 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](http://VanguardIndustries.com) 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.

45. Satellite Tool Kit (STK) Users' Conference Tour Presentations Available– Analytical Graphics, Inc. (AGI), makers of STK, coordinated a spring and summer tour to provide STK training in locations across the country. The one-day free training tour led participants to a better understanding of how to use the STK software. For more information, visit <http://uc.agi.com>.

46. 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.

47. AEX Certificate Template is on the AE web site at www.capmembers.com/ae and click on the appropriate AEX link! 2011-2012 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

**THANK YOU TO THE AIR FORCE ASSOCIATION
FOR SUPPORT TO CAP'S AE PROGRAMS
IN SQUADRONS AND SCHOOLS!**

See attached AFA AE Teacher Grant Report and photos that applaud the AFA for the AE grant and CAP for the AE and ACE programs to use in the classroom:

AFA's CAP AE GRANT REPORT FROM:

Tammy Martin

3rd-5th Grade Gifted and Talented Teacher

Dekalb County Schools

Rainsville, AL

Project Description: We began the school year studying inventions with a focus on two inventors: Leonardo da Vinci and the Wright Brothers. This offered a very smooth transition into studying the invention of flying machines and connecting it with the ACE Program. I introduced to the students the invention of various types of flying machines and we discussed their effects on our society. The students are continuously being exposed to how the flying machines operate which promotes science, technology, and engineering in the classroom. Students will continue to be guided in research activities via the internet in order to gain more insight into various aerospace careers.

Project Outcome:

My gifted and talented students and I are absolutely having a "BLAST" exploring aerospace education! Without the support of the CAP for the ACE program materials and the AFA for the CAP AE Grant, we could not accomplish such exciting activities. A large THANK YOU to the AFA and CAP!

So far, we have used our supplies to blow Bernoulli's bubbles, analyze the anatomy of airplanes, experiment with the flying of paper airplanes, fly FPG-9 gliders, set off balloon lifters, survey the symbolism in NASA patches and create our own mission patches, create candy parachutes as a reminder to have a humanitarian spirit like "Uncle Wiggly Wings" and create candy airplanes as a reminder of having integrity from the "Wings of Responsibility" ACE lesson. And we are not finished yet! We are looking forward to learning and exploring so much more in aerospace!

The CAP lessons are so clear, practical and engaging and they allow the students to see science "come alive"... they all are ENJOYING the learning process! The hands-on activities are allowing students to be active learners, which is increasing the comprehension level of science principles and is enabling the learning process to have a lasting impact. For example, we studied the parts of an airplane several weeks prior to going over the lesson on "Uncle Wiggly Wings." When I asked the class how Col Gail Halvorsen was able to wiggle his wings on his airplane, they responded by telling me that he maneuvered the ailerons. I believe the exciting lesson of experimenting with flying paper airplanes and maneuvering the control devices on them was able to highly influence this lasting effect.

Point of Pride with the Project:

Interest levels have exceeded expectations, reflected in such comments as "I wish we could do this all day long!" and "If we *could* keep doing these aerospace projects I wouldn't want to leave school this afternoon!" The character lessons are opening the students' eyes as to how their own lives and choices affect others. In relation to "Uncle Wiggly Wings", we have discussed how they could develop a humanitarian spirit by first analyzing their own strength areas and determining ways they could help others with their gifts, talents, abilities, knowledge, etc.

Several students have indicated an interest in careers in aerospace and engineering as a result of the ACE Program! I believe that once we explore even more aerospace careers than we already have and complete the program, I will hear from more students that they have goals to enter the aerospace field.

The ACE Program is a fantastic avenue to not only introduce the field of aerospace to elementary students, but to create an excitement and interest in science and in aerospace careers. Thank you so much for your support in this endeavor!

Project Impact: # of students involved 85 (among 3 schools)

Grade level of students: 3rd – 5th

Further Comments: The ACE Program is such an excellent curriculum and is a perfect fit for the students in our gifted and talented program! Some of the goals in our gifted and talented program include the following: provide topics of interest that would not ordinarily be explored in the regular classroom, to provide hands-on projects that engage students in the learning process, provide topics that provide opportunities to solve real world problems or to participate in service projects, and to expose students to various career opportunities. The ACE Program has enabled us to provide students with a superior curriculum that achieves these goals. I plan to offer this program to each new group of students that enter our gifted and talented program in the future. Thank you for your commitment to excellence!



We appreciate YOU, CAP and the AFA! Thank you for your support!



Blowing Bernoulli's Bubbles



Discovering Bernoulli's Principle by Blowing Bubbles



Making parachutes



The Candy Bombers... like "Uncle Wiggly Wings"



Tossing Parachutes



CAP Airplanes



Science experiment with CAP Airplanes



Watching the effects of control devices on airplanes



FPG-9 Gliders



Supplies for Candy Airplanes



Making Candy Airplanes for "Wings of Responsibility"



NASA Patches inspired us to create our own mission patches



Testing the Balloon Lifters

