Aerospace Education News

Fall 2009

Inspiring Students To Excel

Telescopes....What's Out There?

- World Space Week - Oct. 4-10
- Earth Science Week - Oct. 11-17
- Red Ribbon Week - Oct. 17-25
- Character Counts Week - Oct. 18-24
- Astronomy Week - Oct. 19-25
- American Education Week - Nov. 15-21

IN THIS ISSUE

Aerospace Education News

Aerospace Education News is the official aerospace education quarterly publication of the Civil Air Patrol at CAP National Headquarters, Maxwell Air Force Base, Ala.

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If you have news, events, or ideas we might consider for the newsletter, please submit them electronically to jstone@capnhq.gov.

Whether telescopes are earth-based or space-based, they are providing us with pictures and information that amaze and astound us. From telescopes on earth, such as the 8-meter Gemini South telescope in Chile to the space telescope Hubble, we are seeing galaxies and other astronomical wonders that we only imagined before.

Earth telescopes are used to help us unravel the mysteries of space. However, the handicap they experience is the interfering signals from Earth's atmosphere. Accomplishments, such as years of observations and data from three different Earth-based telescopes concerning methane on Mars, have brought us closer to determining the possibility of life on Mars. A group of these observatory telescopes at the W.M. Keck Observatory in Mauna Kea, Hawaii has gathered this data and other planetary happenings for many years. For more on this observatory, go to **http://www.keckobservatory.org/** .

Space telescopes have been sharing their special perspectives for almost 20 years. The Hubble Space Telescope (a reflective, optical telescope) was carried into orbit in April 1990 and is still performing its miraculous duties today. The next great space telescope will be the James Webb Space Telescope, to be launched in 2014. It will make history as the largest infrared observatory ever sent into orbit. Fifteen countries from around the world are contributing to making the Webb Telescope a reality. To find out more about the Hubble and Webb telescopes, go to **http://hubblesite.org/** .

The Webb team members at Goddard Space Flight Center in Maryland pose in front of a life-sized model of the Webb telescope.

In addition to learning about the great science breakthroughs and seeing the wonderful pictures that tell stories of their own, we also learn that none of this could have been accomplished without a team of people dedicated to making this dream happen. In today's technological world, where it seems we are isolated from each other by technology, we see that technology is really bringing us together to discover the wonders of our world and the universe.

Questions for discussion:
1. What is the advantage of seeing space through a space-based telescope versus an earth-based telescope?
2. What is significant about the James Webb Space Telescope to be launched in 2014?
3. How can "teamwork" be an important part of the discoveries in space?
(Answers on page 9).

Aerospace Education Member (AEM) Spotlight ...

William "Bill" Yucuis

Bill Yucuis has distinguished himself in the classroom and in his past life as a U.S. Air Force pilot and Air Force Academy Instructor.

What makes Bill a great teacher? Bill Yucuis guides and enlightens, as well as motivates his students to be the best they can be. He challenges his students and lets them know about real-world applications to what he is teaching. He has a passion for engineering (especially aerospace), but he is also trying to teach his students to do group problem solving, then communicate solutions through writing and speaking. His emphasis is on S.T.E.M. (science, technology, engineering and mathematics) subjects.

Bill knew that flying was his passion, but a turning point in his life was when he found his stronger passion was education. He combined the two and the results are influencing the next generation of professionals. Bill has taught at Lyman High School in Longwood, Florida, since 2002. He is the moving force behind the school's Engineering Institute Magnet Program as head of the Aerospace Engineering component of the program. Principal Frank Casillo says of Bill, "His curriculum gives students the opportunity to practice teamwork and communication while solving real-world, complex problems. These critical skills provide the foundation for student success not only in high school and college but throughout their entire life."

Some of Mr. Yucuis's students on a VIP tour at Kennedy Space Center. They took 1st place in a Career Research Competition developed by NASA and sponsored by USA Today.

Bill has received many awards and honors in his teaching career. The recognitions he has received include: National Board Certification in Career and Technology Education, USA Today All-USA Teacher Team, Air Force Association Florida Teacher of the Year, Seminole County High School Science Teacher of the Year, and Lyman High School Teacher of the Year, just to name a few. He is a member of many professional organizations, including membership in CAP as an AEM since 2006. Lt Col John Lynn, CAP Director of Aerospace Education for the Florida Wing, said of Bill, "He has been a strong advocate of the CAP Aerospace Education Program. He has used the CAP educational materials to provide valuable "hands-on" activities and information relative to flight, science and aerospace. His students have been especially excited to work with their projects to receive the Civil Air Patrol Aerospace Education Excellence Award. Bill has also assisted CAP with programs and presentations."

Bill Yucuis is the consumate teacher and lifelong learner. He continues to gain more knowledge and skills to share with his students through participating in research projects, partnering with universities, schools and industry, and attending summer projects and workshops. Without a doubt, his dedication and selfless attitude to making each student reach his or her potential is what all teachers aspire to in their classrooms. Therefore, Bill Yucuis is an AEM Spotlight that goes above and beyond to be the perfect example of what our country needs to prepare the workforce of tomorrow.

"Do something you enjoy that you can be good at."
--Bill Yucuis' advice to his students

Bill shares Rocketry knowledge with teachers at Sun 'n Fun workshop in Florida

Aerospace Education Officer (AEO) Spotlight.....

Capt Tom Owens

GA Wing Director of Aerospace Education

New on the job, but not new to the Aerospace Education position, Capt Tom Owens is the GA Wing's very enthusiastic and excited Director of Aerospace Education. He is a great supporter and resource for the Aerospace Education Officers and other members in his Wing. With his love of aviation and his DA40 Diamond Star airplane, he provides the flying experience for cadets and senior members that keeps them excited about aerospace.

Capt Tom Owens shows his AE enthusiasm while working with cadets

Having a keen interest in aerospace at a young age helped to determine the future for Tom. His parents and teachers encouraged his interest in aviation and space. From trips to such locations as the National Air and Space Museum and the local airport in his Connecticut town, Tom's parents provided the experiences that fostered his interest in aerospace. The same support was provided by the teachers in his secondary school who allowed his interest and knowledge to grow with science and math projects about airplanes, rocketry or astronomy, as well as by English teachers who allowed him to write biographical sketches of the Wright Brothers, Billy Mitchell, Robert Goddard and others.

Encouraged by people, books and television shows that involved pilots and flying, Tom Owens chose to get involved in engineering and received a graduate degree in Control Systems Engineering. Tom also holds Commercial Multiengine and Flight Instructor ratings. He enjoys flying both gliders and powered aircraft.

CAP has been a way to share the love of aviation with others. As a CAP Mission Pilot, Mission Observer and AFROTC Orientation Pilot, Tom Owens continues to learn and teach. He serves Gerogia Wing as a Certified Flight Instructor, an AFROTC Cadet Orientation Pilot and the Georgia Wing Director of Aerospace Education (DAE). He teaches at the National Flight Academy in Oshkosh, and often trains new Senior Members in his own glass cockpit airplane.

Capt Tom Owens poses in front of the Keck Observatories in Hawaii.

According to Tom, "I love working with our cadets and finding ways to explain the more complicated topics effectively. I love the gleam in their eyes when they see the rings of Saturn in my telescope for the first time. Our senior members are a great resource. We have military and civilian pilots, air traffic controllers and engineers who take the time to share their experiences."

We hope that Tom continues to share his experiences and talents with CAP for a long time and passes on the love of aerospace to many young people along the way. Who knows which one will become an engineer, pilot or astronomer because of the same "bug" that Tom was exposed to as a child? We thank him for what he does and leading the way in aerospace in GA Wing.

"I love the gleam in their (the cadets) eyes when they see the rings of Saturn in my telescope for the first time."
Tom Owens, DAE GA WG

Aerospace Education Soars!

K-6 Aerospace Connections in Education (ACE)

The 2009-2010 CAP ACE Program has a few slots available for any teacher or school that wishes to participate in this exciting new CAP AE program for grades K-6. What is the ACE Program? It is a grade-level specific aerospace-themed program that focuses on enriching STEM subjects to provide relevance to academics, encourages good moral character, and teaches physical fitness habits for living a healthy and drug-free lifestyle. All program materials are provided free to teachers and include a national academic standards-based curriculum guide, a lesson manipulative item for each student, special ACE t-shirts, and end of year teacher plaque, student certificates, and even cash awards for outstanding performance, sponsored by the Air Force Association. For more information, go to the ACE link at **www.capmembers.com/ae** or contact Angie St John at astjohn@capnhq.gov to register your class by mid October!

Team America Rocketry Challenge 2010

Registration is open until November 30, 2009 for the national rocket competition for grades 7-12. 750 teams of 3-10 students are challenged to build and fly a model rocket that will climb to 825 feet, stay aloft for 40-45 seconds, and return to earth with an unbroken raw egg payload. Cash awards included. CAP units usually place high! For more info, go to: **http://www.rocketcontest.org/.**

CAP Middle East Region AE/DDR display at 2009 Team America Rocketry Challenge

Fly-a-Teacher Program

CAP pilots across the nation are taking teachers "out of the classroom and into the sky" to provide an orientation to the principles and excitement of flight that can be transferred to the instructional setting. To find out about participation, go to the Fly-a-Teacher link at **www.civilairpatrol.com/ae** or contact Judy Stone at jstone@capnhq.gov.

Speaking of Teacher Flights...

During the summer, over 50 educators participated in the inaugural A. Scott Crossfield Educator Workshop in Dayton, OH. Not only were teachers flown via complimentary military airlift by the 908th Airlift Wing at Maxwell Air Force Base, AL to Wright Patterson Airfield in Dayton, they were also flown in CAP planes while participating in the Fly-a-Teacher portion of the workshop. The CAP Ohio Wing supported the program with 11 pilots and Cessna airplanes, as well as van transportation to tour the historic sites in Dayton. The National Aviation Hall of Fame invited the teachers to: a special air show at Moraine Air Park with tethered hot air balloon rides and flights in experimental aircraft; special presentations by NAHF Chairman of the Board, Col Robbie Robinson, and astronauts Charles Precourt, Eileen Collins, Gene Cernan, and Jim Lovell; and the NAHF Enshrinement Dinners for Apollo and other astronauts and aviators. Additional presentations were made by famous test balloonist, Col Joe Kittinger, aerospace author, Tom Crouch, four WASPs (Women Air Force Service Pilots), and aviator Maj Gen Mike Hall. The workshop will be conducted again July 15-18, 2010. For more information, contact Susan Mallett at smallett@capnhq.gov

Educators pose after CAP's Fly-a-Teacher Flights in Dayton, OH

CURRICULUM CORNER (Grades 6-8).....

Universe Trail Mix Activity.....

From "Afterschool Universe" Program - NASA's Astronomy Program for Middle School Students

Objective:
Students will use a random sample to estimate the abundance of elements in the universe.

National Science Standards:
Content Standard A: Science as Inquiry
Content Standard B: Physical Science
- Structure and properties of matter

Content Standard D: Earth and Space Science
- Origin and evolution of the universe

Unifying Concepts and Processes
- Evidence, models, and explanation

Grade Level: 6-8

Background Information:
Vocabulary:
Atom: The smallest particle of an element that has the characteristics of that element.
Element: A material consisting of all the same atoms.
Molecule: Two or more atoms of the same or different elements that are chemically bound together.
Compound: A material consisting of atoms of two or more different elements that are chemically bound together.

The lightest elements (hydrogen, helium, and some lithium) were created when the Universe began.

Then the Universe cooled and matter clumped together to form stars. In the stars, those first elements were fused into heavier ones by the energy from the stars' gravity - up to a certain point.

The formation of elements heavier than iron and lead requires more energy than a star has. So the explosion of a star at the end of its life (a supernova) provides enough energy to go much further down the periodic table. A supernova throws all of its elements out into space, where new stars can use them as they form.

We know the Sun is a later-generation star because it has those heavier elements. (We know that from spectroscopy, among other ways.)

Spectroscopy has been used in space telescopes, such as the Hubble, to determine the composition of matter in space. The Hubble is a reflecting telescope which uses an arrangement of mirrors to form an image. It also uses special instruments, such as the Cosmic Origins Spectograph, to gather information about the Universe.

Materials:
A large bowl with the following ingredients measured and mixed well in it:
- •40 spoonfuls of rice (to represent 89% abundance of hydrogen in the Universe)
- •4 spoonfuls of split peas (to represent 9% of abundance of helium)
- •2 spoonfuls of macaroni (to represent 0.75% abundance of carbon)
- •2 spoonfuls of black beans (to represent 0.75% abundance of oxygen)
- •1 spoonful of pink beans (to represent 0.25% abundance of nitrogen)
- •1 spoonful of sprinkles (to represent 0.25% abundance of all other elements)

(The amounts of macaroni, black beans, pink bean, and sprinkles are highly exaggerated, because they would not be visible in the mixture in smaller amounts. You may use other items to represent the different elements as long as they are similar in size. Use a plastic spoon for consistent measuring of the ingredients.)
••Copies of the Universe Trail Mix worksheet
•Small cups - one per student
•Paper towels - one per student

Procedure:
1. After mixing the ingredients prior to the activity being presented, distribute the Universe Trail Mix worksheets, which includes the Universe Trail Mix key (so that they know which ingredient represents which element), small cups, and sheets of paper towel to all students..

2. Ask the group what element we have the most of in the Universe. (Hydrogen) If we grabbed a handful of space particles, what would we have? (To find out, they do the activity.)

3. Take the plastic spoon and serve the trail mix into each cup. Tell the students that this trail mix was prepared to imitate the proportions of the most common elements in the Universe.

4. Have the students empty the contents of the cup onto the paper towel. Students then count or estimate how much of each ingredient (element) they have, and record it on the worksheet.

5. On a chart for the whole class to see, draw a table with a column heading for each element. Have each student come up and record how much of each "element" they found. (Another way to do this would be to have students work in groups of five and get the group totals and then record them as a group on the chart.)

Discussion:
1. Ask why some of the elements did not appear in all of the samples. Do you think this would be similar to what we observe in space?

2. Answer the questions on the worksheet and compare answers within each group.

To see the entire lesson associated with this activity and to get details on how to answer discussion questions, go to **http://universe.nasa.gov/au/docs/samples.pdf.**

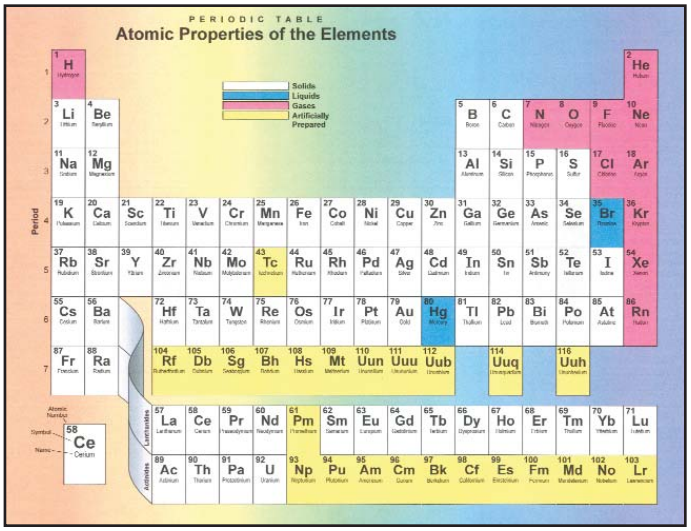
CURRICULUM CORNER ....(Grades 6-8 continued)

Universe Trail Mix Worksheet

Name _____ **Date**_____

INGREDIENT	ELEMENT	HOW MANY?
Black Beans	_____	_____
Blue Sprinkles	_____	_____
Green Split Peas	_____	_____
Macaroni	_____	_____
Orange Sprinkles	_____	_____
Green Sprinkles	_____	_____
Pink Beans	_____	_____
Rice	_____	_____
Red Sprinkles	_____	_____
Yellow Sprinkles	_____	_____

1. Which element is the most abundant? _____
2. Which element is the second most abundant? _____
3. Did you find all of the elements in your sample? _____
4. Were the elements evenly distributed? _____
5. On the back of this page write your hypothesis of why all ingredients may or may not have been in your sample and why elements were or were not evenly distributed.



CURRICULUM CORNER (Grades K-8).....

Reflection of Light With a Plane (Flat) Mirror - Trace a Star

(This activity came from NASA's Optics: An Educator's Guide With Activities in Science and Mathematics) - This activity will help understanding of how a reflector telescope works.

Objective:
The students will experiment with reflection by using a plane mirror.

National Science Standards:
Content Standard A: Science as Inquiry
Content Standard B: Physical Science
- Light, heat, electricity and magnetism

National Mathematics Standards
3. Geometry
8. Communication

Grade Level(s): K-8

Background Information:
Flat mirrors are also called plane mirrors. Light rays that fall upon a surface are called incident rays. The angle at which light strikes a plane mirror from an object is called the angle of incidence. The angle at which light is reflected from the mirror is called the angle of reflection.

Materials:
- 2 blocks of wood 8 inches long
- 1 piece of cardboard 8 inches x 5 inches
- 1 mirror tile (1 foot square backed with heavy cardboard sealed on the edges with thick tape)
- thick tape (duct tape)
- heavy cardboard
- tracing patterns
- pencil
- paper, white

Procedure:
1. Stand the mirror at 90 degrees to the surface of the table.

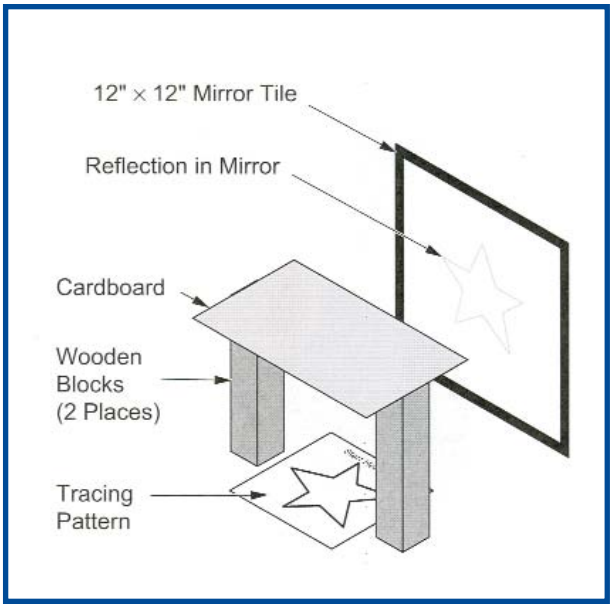
2. Stand the two wooden blocks on the ends. Position them parallel to each side of the mirror and 10 inches from the face of the mirror.

3. Place the cardboard horizontally across the top of the two wooden blocks. Place a paper tracing pattern on the flat surface between the two blocks of wood.

4. Place your finger at the starting point on each pattern.

5. Look only in the mirror trace the star pattern. Now trace the swirl pattern in the same manner.

6. Next, do the same using the pencil.



Observations, Data, and Conclusions
1. How difficult was it to trace the two patterns with the pencil? (The individual students will complete the activity with varying degrees of difficulty.)

2. What information did your eyes give you? (The student will see the images reversed left to right.)

3. What information did your brain or body give you? (The brain and senses, especially touch, tend to get confused and the brain will try to correct for the reversal of the images.)

4. Where did the hand in the mirror seem to be located when you looked in the mirror? (The hand will appear to be located behind the mirror at a distance equal to the distance of the object from the front of the mirror.)

5. Is it harder to trace a pattern with your finger or with a pencil? Why? (It tends to be easier to trace with a finger because the body gets additional feedback through the sense of touch.)

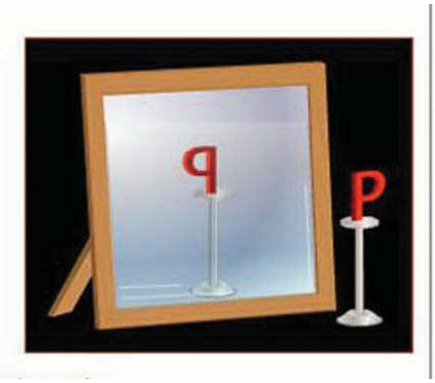
6. How were you able to see the pattern to trace it onto the paper? (The mirror reflected the light so that you could see the pattern to trace it.)

7. After completing these questions, let students draw some designs of their own. Exchange their designs with other students and trace their designs. (At the end of the lesson, the students might share their designs with the class. If a computer is available, the students could design and compile a booklet of class designs on the computer.)

Reflection of Light With a Plane (Flat) Mirror - Trace a Star (cont.....)

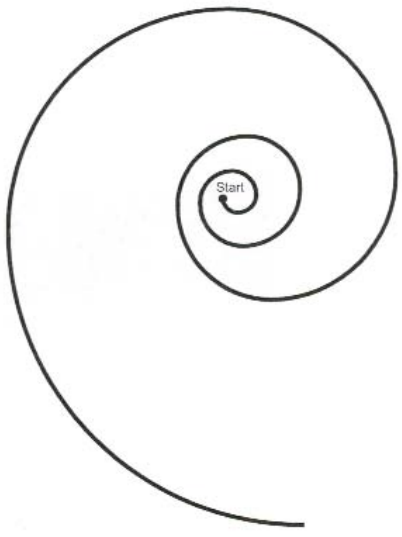
Tracing Pattern #1

These patterns may be enlarged for easier tracing.
The exact pattern size and other activities associated with the Optics Educator's Guide from NASA can be found at http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Optics.Guide.html



Mirror Reflecting Image

Tracing Pattern #2



Thank You

Air Force Association!

Air Force Association Partnership

For many years, the Air Force Association (AFA) has recognized the significant aerospace contributions of Civil Air Patrol to our nation. In an effort to demonstrate the esteem AFA holds for the work CAP members accomplish throughout our country, the AFA provides annual awards and grants for our units and our teacher members. Each squadron can annually recognize an outstanding cadet with a special medal and ribbon provided by AFA. In addition, AFA gives national recognition to one exemplary CAP Aerospace Education Cadet of the Year. The AFA also provides $250 grants to CAP units and teachers to assist them in perpetuating the AE mission in their units and classrooms. The grant competition is quite competitive with only 20 grants given in each of the four grant cycles during the year. The current "teacher" grant cycle ended September 30, with winners to be announced in our next publication.

The recent June 30 "unit" grant cycle winners were:

Redwood Empire Comp Sq, CA
Westchester Cadet Sq, NY
Air Academy Cadet Sq, CO
Citrus County Comp Sq, FL
Scott Composite Sq, IL
Oregon Wing, OR
Allegheny Co Comp Sq, PA
Lapeer Composite Sq, MI
Wheatland Comp Sq, WY
Puerto Rico 146 Grp 2, PR
Kenosha Comp Sq, WI
Diamondhead Comp Sq, MS
Camarillo Comp Sq, CA
Florida Wing, Group V, FL
Plymouth Comp Sq, IN
Mt Vernon Comp Sq, VA
Monroe Comp Sq, MI
Lawrence Comp Sq, KS
Great Lakes Reg WI 166, WI
SE Raleigh Magnet HS Flight, NC

One recent AFA unit grant project of note was conducted by Bob Wiggin, AEO from Lawrence Composite Squadron in Lawrence, Kansas. The group participated in two projects during trips to the Kansas Air and Army National Guard Facilities at Forbes Field in Topeka. At the Combat Air Museum, while hosting two other CAP squadrons and international exchange cadets from Canada and Belgium, the group learned about US and world airpower history and modern aviation technology. The second trip provided a Blackhawk helicopter flight for the squadron where they learned about state-of-the art communication, search and rescue, and night vision capabilities. Much appreciation is given to the AFA for providing the funds to allow the young people these unique opportunities to explore potential aerospace career fields.

The next "unit" grant cycle ends December 30, with the following "teacher" cycle ending March 30. To complete a grant application, go to the AFA link at www.capmembers.com/ae.

The AFA also provides additional $250 educator grants from their national office for which any of CAP's teacher members can also apply. Applications can be found at **http://www.afa.org/aef/aid/educator.asp** The deadline for submission is November 13, 2009 with winners announced in January 2010.

KS Lawrence Composite Sq joins hands with local squadrons and international exchange students to tour Forbes Field in Topeka, KS

Answers to Telescopes (front page) discussion:

1. The James Webb Space Telescope is the largest infrared observatory ever sent into orbit and is developed by 15 countries!

2. The Earth's atmosphere distorts images from space with earth-based telescopes. Space telescopes do not have this obstacle to overcome.

3. Teamwork can be an important part of any discovery due to each member of the team having a unique contribution and expertise to solve problems. A sense of accomplishment and pride shared in a job well done is vital to space discoveries.

Chief's Corner.....

From the desk of Dr. Jeff Montgomery, HQ Chief of Aerospace Education

CAP Aerospace Education Awards

One way to recognize our CAP volunteer members is through CAP's awards programs. CAP's Aerospace Education mission is accomplished by all of the dedicated and hard working aerospace volunteers who give so much personal time and efforts to promote aerospace to cadets, senior members, students and the general public. The fruits of this labor are evidenced daily throughout the squadrons of CAP and the classrooms of America and are enriching our organization and our country now and in the future.

For those who couldn't go to the recently completed CAP 2009 Annual Conference and National Board Meeting in San Antonio, here are the lists of winners of CAP's aerospace awards that were announced at the award ceremony. Impressively, the nominations for all of these awards made the selection process difficult.. For example, members of the Brewer family stated that the nominations for the Brewer Awards were of the best quality they had seen in years. The nominations for the other awards were equally well written and described well-deserving members and wings. So, much appreciation for the terrific nomination packages for well-deserving AE members. It is hoped that such quality AE efforts and nominations will continue in the future.

The award winners for this year's aerospace education awards are:

• Aerospace Education Officer of the Year – Lt Col Richard Edgerton, Washington Wing*

• Aerospace Education Teacher of the Year – Stuart Sharack, Connecticut Wing*

*Both were spotlighted in our previous newsletter.

Maj Gen Amy Courter (left in each picture) and Rob Brewer (right in each picture) present Cadet Brewer Award to C/2Lt Charles Hussey (top left); Senior Member Brewer Award to Capt Frank Merrill (top right); Organization Brewer Award to Jason Marcks of Space Education Initiatives (bottom left); and Lifetime Achievement Award to Lt Col John Lynn (bottom right) during awards ceremony at National Board

• **Frank G. Brewer Memorial Aerospace Awards:**
Category I - Cadet:
C/2Lt Charles Hussey, Southeast Region
Category II - Senior Member:
Capt Frank Merrill, Great Lakes Region
Category III - Individual/Organization:
Space Education Initiatives, Great Lakes Region
Category IV – Lifetime Achievement:
Lt Col John Lynn, Southeast Region

• AFA Aerospace Education Cadet of the Year Award –
C/Lt Col Victor Traven, Maryland Wing
(this award is announced at the AFA annual conference)

• Aerospace Education Mission Awards:

First Place	National	Wisconsin
Second Place	National	Florida
Third Place	National	Oregon

Missiion Award Winners in each Region:

Great Lakes Region	Wisconsin
Middle East Region	South Carolina
Northeast Region	Pennsylvania
North Central Region	Minnesota
Pacific Region	Oregon
Rocky Mt Region	Utah
Southeast Region	Florida
Southwest Region	Texas

Items Of Interest.....

AEX (Aerospace Education Excellence) Award Program - Mission Possible!

It's time to sign up for the 09-10 AEX program! What is AEX? AEX is a fun and popular program free to our members that involves doing hands-on aviation and space-related activities. The AEX application and awards completion report are now online, and it is easier than ever to participate! Each unit or AEM participating in AEX will need to go to register electronically. Not sure exactly what to do? Just follow the steps below:

1. Beginning **October 1**, the 09-10 application will be available.
2. Go to e-Services: **http://www.capnhq.gov** and log in. Directions for setting up an e-Services account can be found at the bottom. (CAP regular members must be the AEO or Commander in order to view this link.)
3. In e-Services, regular members click on AEX in the "CAP Utilities" in the left column. AEMs click AEX in the right column.
4. Select "Apply for AEX." Be sure to complete all required fields. You can order your books on this form. An email confirmation will be sent once the application has been submitted.
5. After completing at least six aerospace lessons from our curriculum (or yours), as well as an additional two-hour aerospace education related activity, go back to e-Services , click AEX in the "CAP Utilities" and select "AEX Award Report." Simply fill in all required fields on the electronic awards report to receive a beautiful wooden plaque and participant certificates in about two weeks. Again, an email confirmation will be sent once the Award Report has been submitted.

How to set up your eServices Account:

1. Go to **http://www.capnhq.gov**.
2. Click "first time users click here" to begin setting up an eServices account.
3. Follow the instructions that are provided.*

*(If you are directed to a site that has a "warning," please continue. You are on the right track.)

4. Setting up your eServices account involves a "training." Please do not be concerned. It is easy and only requires that you click through all the slides and click agree.
5. Once completed, the wonderful world of CAP's eServices should be available to you!

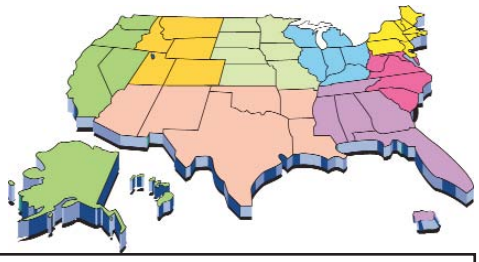
If additional information is needed about the AEX program, please go to **http://members.gocivilairpatrol.com/ae** . If you have further questions, contact Debbie Dahl at ddahl@capnhq.gov .

NASA Celebrates X-15 Flights that Led to the Space Shuttle

Fifty years ago in 1959, test pilot Scott Crossfield threw the switch to ignite the twin XLR-11 engines of his North American Aviation X-15 rocket plane and begin the storied test program's first powered flight. The experimental, rocket-boosted aircraft flew 199 flights with 12 different pilots at the controls from 1959 through 1968. It captured vital data on the effects of hypersonic flight on man and machine that proved valuable to the aeronautics researchers, including NASA and developers of the space shuttle.

Scott Crossfield posing in front of the X-15
Note: Scott Crossfield is the namesake to CAP's AE Crossfield Award.

To find out more about the X-15 and download a poster with mini-biographies of the pilots that flew in the program, go to:
http://www.nasa.gov/audience/foreducators/topnav/materials/



REGION TO REGION

For information on other pertinent dates for CAP Members and Educators, go to our calendar at http://members.gocivilairpatrol.com/ae

NORTHEAST REGION

October 17
Connecticut Science Teachers Association will hold its Science Educators Conference at Hamden Middle School in Hamden, Connecticut.
http://www.csta-us.org/

October 24
Hartford County Astronomical Society presents Astronomy Day at Hartford Community College in Hartford, Connecticut.
http://www.astroleague.org/files/webform/Astronomy%Day%20Flyer.jpg

October 31 - November 3
Science Teachers Association of New York State Conference will be held at the Rochester Riverside Convention Center in Rochester, New York.
http://www.stanys.org/

MIDDLE EAST REGION

November 4-6
The South Carolina Science Council will hold its annual conference at the Myrtle Beach Conference Center in Myrtle Beach, South Carolina
http://www.southcarolinascience.org/

November 5 - 7
Virginia Association of Science Teachers Conference will be held at the Hilton, Washington Dulles in Herndon, Virginia.
http://www.vast.org

November 19 - 21
The West Virginia Science Teachers Association will hold its annual conference at Glade Springs Resort in Beckley, West Virginia.
http://www.wvsta.org/

GREAT LAKES REGION

November 12 - 14
Illinois Science Teachers Association will hold its 42nd Annual Conference at the Peoria Civic Center and Pere Marquette Hotel in Peoria, Illinois.
http://www.ista-il.org/

SOUTHEAST REGION

October 17
OKTOBERFEST Fly-In will take place at the Kissimmee Air Museum in Kissimmee, Florida.
http://www.warbirdadventures.com/news

November 6 - 7
Tennessee Science Teachers Association will hold its 2009 Professional Development Institute and Conference at Marriott Cool Springs in Franklin, Tennessee.
http://tnsta.com/

November 12 - 14
National Science Teachers Association (NSTA) will hold an area conference in Fort Lauderdale, Florida.
http://www.nsta.org/conferences/2009ftl/

NORTH CENTRAL REGION

October 29 - 31
National Science Teachers Association (NSTA) will be held in Minneapolis, Minnesota.
http://www.nsta.org/conferences/2009min/

SOUTHWEST REGION

November 2 - 4
The Louisiana Science Teachers Association and the Louisiana Association of Teachers of Mathematics present a joint conference in Shreveport, Louisiana.
http://www.lsta.info/

November 5 - 6
Arkansas Curriculum Conference will be held at the Statehouse Convention Center in Little Rock, Arkansas.
http://www.uark.edu/~k12info/ACC/ACC2009/index.html

December 3 - 5
NSTA Area Conference will be held in Phoenix, Arizona.
http://www.nsta.org/conferences/2009pho/

ROCKY MOUNTAIN REGION

November 19 - 20
The Colorado Science Conference for Professional Development will hold its annual conference at the Denver Merchandise Mart in Denver, Colorado.
http://www.coloradocast.org/professionaldevelopment.php?page=overview

January 9 -10, 2010
7th Annual Math & Science Teachers Conference will be held at Casper College in Casper, Wyoming.
http://wsta.1wyo.net/

PACIFIC REGION

October 22 - 25
California Science Education Conference will be at the Palm Springs Convention Center in Palm Springs, California.
http://www.cascience.org/csta/conf_home09.asp

January 7 - 10, 2010
8th Annual Hawaii International Conference on Education will be held in Honolulu, Hawaii.
http://www.hieducation.org/

January 14 - 16, 2010
The Association for Science Teacher Education (ASTE) will hold the ASTE 2010 International Conference at the Sheraton Grand Sacramento, California.
http://theaste.org/meetings/2010conference/index.htm

Special Event

Space Camp/Aviation Challenge in Huntsville, Alabama, provides full scholarships for students. Scholarship applications for the 2010 cycle are due by December 15, 2009.
http://www.spacecamp.com/details.php?cat=Scholarships&program=scholarships