



Aerospace Education

Fall 2011

News

Inspiring Students To Excel

*We wish you all
the best as the
holiday season
approaches.
Please be safe.
--AE Team*

IN THIS ISSUE

AEM Spotlight.....	2
AEO Spotlight	3
ACE Update.....	4
AE Notes.....	5
Curriculum Corner ...	6-9
AFA News.....	10
From Dep Dir Desk.....	11
Region to Region.....	12

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.

Mars Rover - A Curiosity



NASA's next Mars rover, Curiosity, is the size of a small car and is scheduled to land on Mars in August 2012. Curiosity is about twice as long and more than five times as heavy as any previous Mars rover. Its 10 scientific instruments include two for ingesting and analyzing samples of powdered rock that the rover's robotic arm collects. A radioisotope power source will provide heat and electric power to the rover. A rocket-powered sky crane suspending Curiosity on tethers will lower the rover directly to the Martian surface.

Plans for the Mars Science Laboratory mission call for launch from Cape Canaveral Air Force Station, Florida, between Nov. 25 and Dec. 18, 2011, and arrival at Mars in August 2012. The Mars Science Laboratory will deliver Curiosity to a landing site beside a mountain inside Gale Crater on Mars. During a two-year mission on the Red Planet, the rover will investigate whether a selected area of Mars

has offered environmental conditions favorable for microbial life and for preserving evidence about life.

What will be mankind's next frontier...Mars?

To watch a video simulation of the Mars rover, Curiosity, landing on Mars and deploying instruments, visit

<http://www.sciencekids.co.nz/videos/space/marsrover.html>.

To stay informed on the progress of this Mars Science Laboratory mission, go to

<http://www.nasa.gov/msl>.

Questions:

1. How does Curiosity compare in size to the previous Mars rovers?
2. What will provide the heat and electric power to Curiosity?
3. When should Curiosity arrive at Mars?
(Answers on page 11.)



Aerospace Education Member (AEM) Spotlight ...

CAP National Teacher of the Year.....Megan Tucker, FL



Dedicated, organized, creative...these are all descriptions of Megan Tucker, the CAP National Teacher of the Year for 2011. Megan has taught at Kenwood Elementary School in Fort Walton Beach, Florida. Principal of Kenwood, Alan Lambert, said of Megan, "Mrs. Tucker's resourcefulness, tactfulness, and flexibility in dealing with teachers, administrators, and parents alike, in addition to her natural proclivity for teaching, has made her an invaluable asset to the school district in general and my school in particular."

Not only has Megan been an inspiration and educational force within her school, but she has also reached out into the community, spreading the word of aerospace education through a partnership with the Air Force Association, Hulbert Field Chapter #398. Megan was in charge of the AFA Chapter's AE Workshop and also received the AFA Elementary Teacher of the Year for the

chapter. Megan also received the Sustained Service Citation from the Florida Air Force Association.

Megan has gone above and beyond in extending her professional development and achieving the highest level of excellence she possibly can as an educator. Megan became a Nationally Board Certified Teacher in 2009 and also wrote a winning essay for a nationwide contest sponsored by Subaru and the American Association



for the Advancement of Science (A A A S). Megan also received the Presidential Award for Excellence in Math and Science Teaching in 2011 for her exceptional and innovative science teaching at Kenwood. Megan has presented many STEM and Aviation/Aerospace workshops in her region. She has also received several educational grants such as the National Defense Industrial Association (NDIA) grant, Air Force Association grant, and Target Department Stores grant. All of these grants helped support STEM initiatives for materials and field trips for

her students.

As an Aerospace Education Member (AEM) of CAP, Megan has been the coordinator for the CAP Aerospace Connections in Education (ACE) Program where she has helped Kenwood Elementary School earn the 2010 National ACE School of the Year and ACE Coordinator of the Year Awards. Megan also initiated CAP Teacher Orientation Program (TOP) Flights for the ACE teachers at Kenwood. Through her involvement with CAP, Megan has presented workshops for teachers across the country and been involved in receiving training at workshops associated with CAP.



Kenwood students preparing for rocket launch

"Using the ACE program has been such a blessing to my students as well as my entire school! Aviation fascination has taken over Kenwood Elementary and using aerospace is such a powerful tool to engage students (and teachers) in learning...."

.....Megan Tucker



ACE students at Kenwood "take off" for the 2009-2010 Program

Megan Tucker has inspired many students and earned the respect of her colleagues, as well as administrators and parents. Her exceptional dedication and commitment to using aerospace to teach STEM subjects to her students is why she was named the CAP National Teacher of the Year. Congratulations to Megan and we wish her the best for the future!



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

CAP Aerospace Education Officer of the Year - Lt Col Roland Dewing, NM WG DAE



Lt Col Dewing supports CAP squadrons with AE

Lt Col Roland Dewing is the driving force behind the excellent Aerospace Education program in NM Wing of CAP. Lt Col Dewing balances the cadet and senior member AE needs with an extremely successful outreach program that involves flying teachers in CAP Teacher Orientation Program (TOP) Flights and workshops. His program builds excitement within CAP, as well as in his community.

The biggest challenge to running a successful AE program in a wing is finances. Lt Col Dewing has written a grant to the Boeing Corporation for the last three years and has received support to help with his program. This year he received \$8,000 to support a very active TOP Flights program, cadet glider orientation flights, and to supply AE materials to the squadrons. With Lt Col Dewing's leadership, NM WG has flown hundreds of teachers over the last three years. This year alone, Lt Col Dewing has recruited over 100 teachers to join CAP as AEMs. He has also helped 99 cadets receive one or more glider orientation flights this year.

Lt Col Dewing's efforts are appreciated by the leaders in NM WG, as well. As Commander of NM WG, Col Mark Smith, commented concerning Lt Col Dewing, "He is absolutely dedicated as a 50-plus year CAP member to the AE mission. He constantly promotes AE, both internally and externally. He imbues excitement among our members and in the community."

Lt Col Roland Dewing is passionate about anything AE related, from gliders to students learning

about aviation and space, he is always there to "get the job done." Summer 2011 was the initiation of the first annual AE Extravaganza for the NM Wing. Teachers from the Southeast attended, as well. We applaud Lt Col Dewing's outstanding AE career in CAP and know that he will continue all of his great efforts in the future.



Lt Col Dewing (far right) facilitates a teacher workshop on airplane flight

"I contend that his [Lt Col Dewing's] Teacher Orientation Program is among the best in CAP - he flew 100 teachers last year, to include those from many of our rural areas."

***---Col Mark E. Smith,
Commander, NM WG, CAP***



K-6 Aerospace Connections in Education (ACE) Program - Reaching New Heights!

CAP's 2011-2012 ACE Program continues to grow as currently, over 600 ACE educators will be impacting about almost 16,000 students in grades K-6 across the country. 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, encourage good moral character, and teach 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, and special ACE t-shirts (while supplies last). Upon completion of the program, teachers receive an ACE plaque, and each student receives an ACE certificate. Learn more about this exciting program and how to register by going to www.capmembers.com/ace.

The ACE Program materials are additional to the materials received as a new Aerospace Education Member (AEM). Teachers registered by Sept. 25, should receive ACE materials by the end of October. (Shirts shipped to schools may arrive later than other ACE items.) The ACE curriculum guides are also available online through eServices at <https://www.capnhq.gov>. After logging into eServices, click "AE Downloads and Resources" on the left side of the screen, and then scroll down to the ACE curriculum guides. Any member of CAP can access the ACE curriculum guides online at eServices.

After two years of field-testing the program and two years of open enrollment, CAP is beginning to receive reports that support the educational merit of this program and using aerospace education in the classroom. For example, fifth-grade students at Kenwood Elementary School in Fort Walton Beach, Florida, raised their 3 and above achievement levels (with 5

being the highest) from 44% in 2009 (pre-ACE Program) to 66% in 2011, wherein the fifth-grade students had participated in the ACE Program during their fourth- and fifth-grade years. Kenwood's students performed better than both the district and the state in 2011. Another example is from Van Buren Elementary School in Van Buren, Ohio. ACE teacher and aerospace enthusiast Beppie Walerius reported that their fifth-graders had the highest science scores in the county! Ms. Walerius stated, "This validates how aerospace education CAN and DOES cover state and national standards. We had a 96.3% passage rate! And, what the statistics don't show is that there were NO students performing at a limited level, only three at the basic level, and only 12 at proficient level. ALL of the rest were either advanced or accelerated! That's an amazing statement for the power of hands-on aerospace motivation! Thanks for the CAP support and ACE curriculum!"

CAP offers much gratitude and appreciation to additional organizations and companies that helped sponsor this year's program. Contributions from the Air Force Association (AFA), FLIR Systems, Inc., Sertifi, Prattville Rotary Club, and Lightspeed Aviation Foundation are helping CAP reach even more students this year. If you are an elementary educator in grades K-6 and are interested in participating this year, please send an inquiry email to Angie St. John at astjohn@capnhq.gov. If you are already an ACE teacher, stay up-to-date with the latest ACE announcements, stories, and resources at www.capmembers.com/aceteachers. Also, please continue to email your ACE stories and pictures to ace@capnhq.gov. It is your success stories that encourage sponsorship of this program, inspire other educators, and promote the use of aerospace education in the classroom to propel stu-

dents "onward and upward" in their personal, social, and academic achievement.



Top: Beth Elwood's 2010-2011 class at Wright Elementary in Florida demonstrate Bernoulli masks
 Middle: Reward system idea (Caught Being an Ace)
 Bottom: Laura Pink of Antioch Elementary School in Florida - showing her aviation spirit at an ACE workshop for teachers

"This validates how aerospace education CAN and DOES cover state and national standards...Thanks for the CAP support and ACE curriculum!" --- Beppie Walerius, OH ACE Teacher



Aerospace Education Notes.....

AMA and CAP

ALL CAP cadets are eligible to take advantage of the free Academy of Model Aeronautics (AMA) membership.



Look for an AMA club near your squadron to partner with and learn more about model aeronautics. For more information, go to <http://www.modelaircraft.org/membership/clubs.aspx> or to find out more about AMA, go to <http://www.modelaircraft.org/>.

AMA has a program called Take-Off and Grow (or TAG) to introduce model aviation to youth. Go to the website and find out more about this opportunity to partner with your local AMA club. Teachers may want to check out the TAG program to see if it would be a way to connect classroom learning to a fun event.

AMA also offers teachers curriculum support with such materials as AeroLab. These materials are available for middle school physical science and math programs and may be found by contacting AMA at education@modelaircraft.org. The AeroLab DVD/CD featuring activities developed by science teachers for teachers,

thanks to the generous support of the Alcoa Foundation, is being given to every CAP Teacher Member at no cost. AeroLab lessons feature simple foam and balsa aircraft as tools to teach the concepts of force and motion, potential/kinetic energy and centripetal force. The activities also allow students to practice important math skills to determine average speed and distance



Outstanding AE Stars

CAP is fortunate enough to have many dedicated, innovative, and hard-working volunteers in the aerospace education duty position. For these volunteers, aerospace education is not just a duty position, but a calling and a passion. They provide seniors, cadets, and the community in which they live, an opportunity to share their passion.

We wish to recognize two of these individuals in this portion of the AE newsletter. One is Washington Wing's Lt Col Richard Edgerton. Rich is not only the author of the upcoming AEX for Advanced Math book, but also inspires and provides his cadets with special experiences. Recently, he combined efforts for cadets across Washington Wing with students from three Seattle area high schools for a chat with astronauts aboard the

International Space Station (ISS). This once-in-a-lifetime event was held at the *Museum of Flight* in Seattle on August 29. Rich provided not only the opportunity for the ISS downlink event, but also made the experience even more meaningful with a sleepover at the museum the night before the downlink. Rich provided a challenge for the cadets to participate in before "lights out". The cadets were to construct robots whose task was collecting "space junk" and depositing the pieces in a container. After this activity, cadets went outside to watch the ISS transit the night sky. There were many other AE activities the



Another stellar AE leader, Lt Col Kathleen Beauford (AE Officer for LA 093), provides a very educational and extensive AE display at the LA WG Conference and other events in LA. Kathy not only displays, but educates those who stop and ask questions or need more information about AE. Kathy and other AEOs who attend wing conferences have a unique opportunity to share the AE mission with the seniors and cadets in attendance, thus executing the mission of CAP. Thanks for all the great work, Kathy!



Kathy's AE display (top)
Cadet shows interest (bottom)



cadets were able to participate in at this event. What a wonderful and memorable experience for the cadets and seniors that made the trip! We thank Rich for his unceasing energy and commitment to provide the best AE program for his cadets.





CURRICULUM CORNER.....K-4

MARS CRITTERS

NASA'S DESTINATION: MARS

**Objective:**

Students will design a plant or animal life form that might survive on Mars.

National Science Standards:

Content Standard A: Science as Inquiry

- Abilities necessary to do scientific inquiry
- Understanding about scientific inquiry

Content Standard C: Life Science

- The characteristics of organisms
- Organisms and environment

Unifying Concepts and Processes

- Form and function

Grade Level(s): K-4**Background Information:**

Life on Earth exhibits the following common characteristics: take in food, give off waste products, breathe, grow, react to surroundings, and make more of their kind by some form of reproduction.

Life on Mars would have to exhibit the same characteristics if we use the traditional definition of life, but in a different type of environment. Mars is different from Earth in the following ways:

- the atmosphere of Mars is very thin and does not block the harmful solar radiation;
- temperatures are very cold and can get as low as 200 degrees below freezing;
- water resources are limited and difficult to obtain;
- the dominant gas in the air is carbon dioxide with very little oxygen;
- gravity is about 1/3 of Earth's;
- the Martian surface is dusty and red, and huge duststorms occasionally sweep over the plains, darkening the entire planet for days;
- instead of a blue sky, a dusty pink sky would hang overhead; and
- there are no plants or animals on the

surface of Mars to serve as food.

Animals and plants on Earth live in extreme conditions and survive. Some of these conditions are: the harsh, dry, cold valleys of Antarctica; the ocean depths with high pressures and no sunlight; and deep rock formations where organisms have no contact with organic material or sunlight from the surface.

Materials:

- paper (construction, tag board, bulletin board, etc.)
- colored pencils
- glue
- items to decorate the critter (rice, macaroni, glitter, cereal, candy, yarn, string, beads, etc.)
- chart paper for teacher to record responses
- pictures of living organisms from Earth
- pictures of the surface of Mars
- Student Sheet (on page 7)



Plants and animals like the ones above can be used to illustrate life on Earth

Procedure:

1. Teacher should gather materials and set up various art supplies in small groups (2-3 students per group).
2. Search online or in books for pictures of Mars and living things on Earth for a display.
3. Ask the students: "What is a living thing?" Write all answers on chart paper.
4. Discuss the difference between living and nonliving things. Compare a bear and a chair. They both have legs, but one can move on its own and the other cannot. Also, the bear breathes and the chair does not. The bear grows and changes and the chair does not. The bear can have baby bears but the chair cannot have baby chairs. Show pictures of living things (both plants and animals) and discuss what how they are alike in the characteristics that make them considered living things.
5. Now show the students pictures of Mars and talk about the differences of the environment of Mars compared to Earth. (See Background Information for a beginning and then go online at - <http://mars.jpl.nasa.gov/> - to find pictures and descriptions of Mars.)
6. Have students work individually or as a small group to construct a Mars Critter. Have them discuss the characteristics of their animal that will allow it to live on Mars.
7. Have each student or group share their Mars Critter with the class.

Summary:

This activity allows students to think about what a living thing is and how life on another planet would be different than life on Earth.

Evaluation:

Evaluate students or small groups on the creativity and science behind their creations.

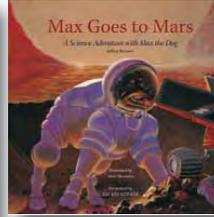
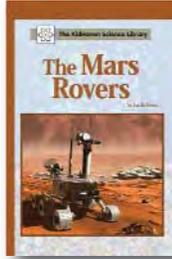
Extension:

1. Books that you can read about Mars to enhance this lesson are: *The Mars*



Rovers by Lucile Davis and *Max Goes to Mars: A Science Adventure with Max the Dog* by Jeffrey Bennett and Alan Okamoto.

2. For the complete curriculum that includes this lesson, go to <http://er.jsc.gov/seh/destmars.pdf>. The guide is called *Destination: Mars*.

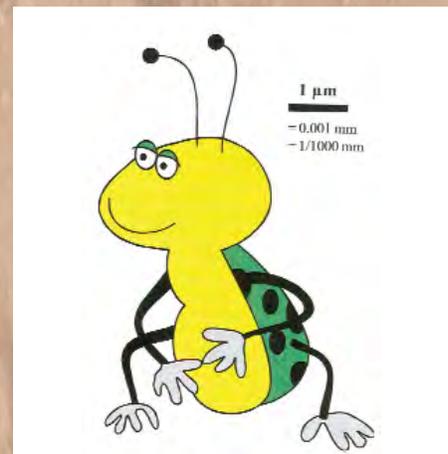


Student Sheet for Mars Critters

Name(s) _____

Use the art materials and draw and design a Mars Critter. Write the answers to the questions below or tell the answers to your class when you present your critter to them.

1. What is your critter's name? _____
2. Tell where the critter lives and what the weather is like?
3. How does your critter move?
4. What does your critter eat?
5. How does your critter defend itself from danger?
6. Does your critter live alone or in groups?
7. What else would you like people to know about your critter?





CURRICULUM CORNER

(Grades 5-12)....

EDIBLE MARS ROVER ADAPTED FROM JEAN SETTLE'S "EDIBLE ROCKETS"



Objective:

Students will be able to:

- Identify Mars Rovers and their parts
- Use creative thinking and problem solving skills to design a rover with edible parts

National Science Standards:

Content Standard A: Science as Inquiry

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

Content Standard E: Science and Technology

- Abilities of technological design
- Unifying Concepts and Processes
- Evidence, models, and explanation

Grade Level: 5-12

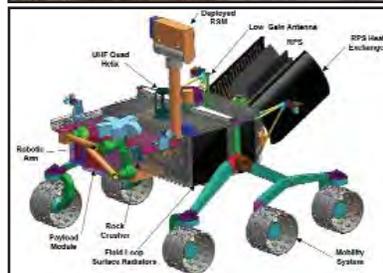
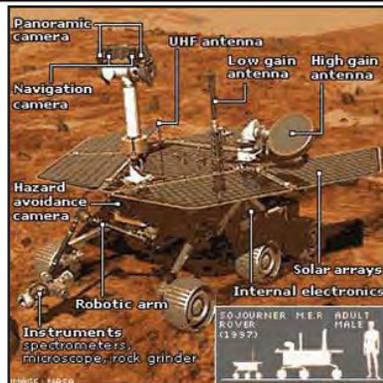
Background Information:

Mars Exploration Rovers (MER) Spirit and Opportunity were designed to study the history of water on Mars at their landing sites and to uncover geologic clues about whether Mars had any environments wet enough in the past to have been hospitable to life. Spirit and Opportunity completed their 90-day primary missions in late April 2004. Today, a remarkable seven years and several mission extensions later, Opportunity continues exploring Mars. Spirit last communicated on March 22, 2010, as Martian winter approached and the rover's solar-energy supply declined.

The latest Mars exploration project from NASA is the Mars Science Laboratory (MSL). A rover named Curiosity is scheduled to launch between November 25 and December 18, 2011 and to land on Mars at Gale Crater between August 6 and August

20, 2012. The Curiosity rover will help assess Mars's habitability, that is, whether Mars is, or ever was an environment able to support microbial life. It will also analyze samples scooped up from the soil and drilled powders from rocks. The Curiosity will be more than five times as massive, and carry more than ten times the mass of scientific instruments as the rovers, Spirit and Opportunity. The total cost of the MSL project is about \$2.3 billion.

Top: Instruments on MER rover
Bottom: Instruments on MSL rover



Materials:

Suggested Materials to Build Edible Rover (per student or group of 2-3):

- 3 graham crackers

- 1 roll of *Smarties*™ candy
- 6 creme wafer cookies
- 1-2 large marshmallows
- 1 snack-size *Kit Kat*™
- 1 straw
- 1 container of frosting (to help glue components together)
- 1 Peppermint Patty
- 6 *Rolo* candies or *Reese's Peanut Butter Cups*™
- 7 toothpicks
- 1-2 gumdrops
- scissors
- 1 plastic knife
- 1 sturdy paper plate or cardboard sheet for building platform
- paper towels
- anti-bacterial hand wipes
- access to internet for research on rovers
- Student Worksheet (on page 9)

NOTE: The materials for this activity can be divided up for student (or parent volunteers) to supply. Another way to offset the cost of this activity is to plan it after a major holiday when candy is on sale or closeout, such as Halloween or Easter.

Sample edible rovers



Procedure:

1. Introduce students to the MER rovers and the MSL rover. Show pictures from the internet or make copies to share. The MER site can be found at http://www.nasa.gov/mission_pages/mer/ and the MSL site is located at <http://marsprogram.jpl.nasa.gov/msl/>.



Curriculum Corner (Grades 5-12) continued....

2. Pass out the materials to each group of 2-3.
3. The students need to decide which rover (MER or MSL or one of their own design) they will construct with the materials provided. NOTE: Pre-bagging the materials in a plastic baggie ahead of time makes handing out the materials easier.
4. Groups should decide which engineering design is best suited for their rover. Have groups decide what the purpose of their rover is and what is

- needed to accomplish the mission in the restricted environment of Mars.
5. Have each group present the results of the Student Sheet and the model to the class.
6. If food safety has been followed in this activity, the models may be eaten after the lesson is over.

Summary:

In this activity, students learn about the parts of the rover as well as going through the engineering process and

problem solving within the group.

Evaluation:

Student Worksheet and presentation of the rover by the group will be the assessment for this activity.

Extension:

Have students compete for the best or most creative design. Have another class or teachers judge the models.

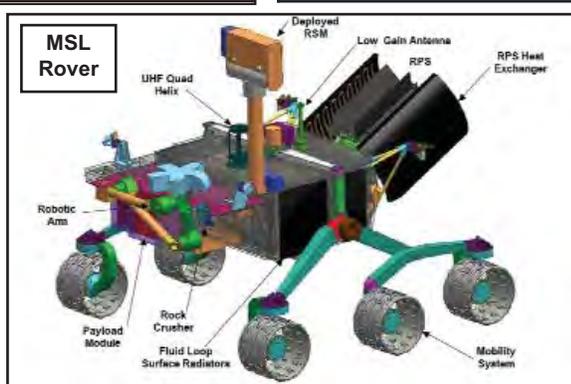
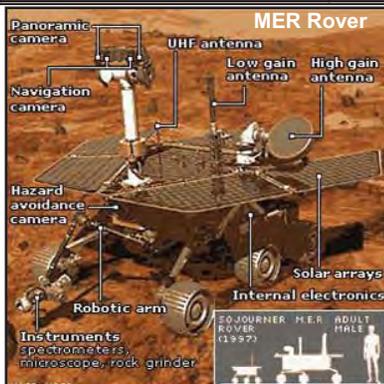
Edible Mars Rover Student Worksheet

Team Members: _____

1. Collect materials from your teacher.
2. Research the Mars rovers using these websites: http://www.nasa.gov/mission_pages/mer/ and <http://marsprogram.jpl.nasa.gov/msl/>. Use the diagrams at the bottom or your research to fill in the charts.
3. As a team, decide on a design and mission for your rover and finish the worksheet.

CAPABILITY	NEEDED TECHNOLOGY OR INSTRUMENT
a. Rolls on a hard surface	
b. Receives commands from Earth; sends data and images back to Earth	
c. Makes panoramic images of the environment	
d. Makes scientific measurements of rocks or soil	
e. Powers itself using the light of the Sun	

NEEDED TECHNOLOGY OR INSTRUMENT	WHAT PIECE OF CANDY WILL YOU USE?
a.	
b.	
c.	
d.	
e.	





Air Force Association Partnership

CAP's continues to share the deepest respect for and appreciation to the Air Force Association for the many years of financial support enabling the perpetuation of the AE Mission via CAP's youth development programs for CAP units and teacher members. This quarter, appreciation is extended to the AFA for providing \$250 AE grants to teachers selected in a competitive grant application process. The fall quarter grant winners, their schools, and their excellent AE projects are as follows:

AFA/CAP AE Grant Winners (2011 fall cycle - teachers)

- **Tanya Anderson**, St. Joan of Arc School, Lisle, IL – Fired UP Fridays AE Program
- **Teri Boxberger**, Walker Elementary, Crestview, FL – Science Fair Program
- **Geoffrey Chandler**, Wesley Lakes Elementary, McDonough, GA—After-school Aerospace Club
- **Bonnie Dertz & Anne Matousek**, Freeport Middle School, Freeport, IL – First LEGO League Competition
- **Celeste DeVine**, Anthem School, Anthem AZ – Hot Air Balloon Event
- **Scott Erickson**, Milton High School, Milton, FL – PASCO Passport Sound Level Sensors
- **Dee Freewert**, Space Science 4 Schools, Incline Village, NV--Aviation Day and NV Space Day Museum Outreach Initiative
- **Debbie Hamilton**, Antioch Christian Academy, Lumberton, NC—CAP's Journey of Flight Program
- **Mike Hansen**, Linden School, Malden, MA—Spectrometer Identification of Composition of Stars
- **Janie Hill**, Gardner Math, Science, & Technology Magnet, Hot Springs, AR—School Library of Aerospace Books
- **James Johnson**, Children's Center for Treatment & Education, Custer City, PA – Orthographic/Isometric Rocket Design
- **Penny Lamb**, Webster Springs Middle School, Webster Springs, WV—Seattle Museum of Flight/Carnegie Science Center Day in the Park Trip

- **Tammy Leker**, Crestwood Elementary, North Little Rock, AR -- CAP's Robotics Program Implementation
- **Kurt Lichtenwald**, Helen Keller Elementary School, Green Bay, WI – Team Teaching Aviation Career Development Program
- **Julie Lloyd**, Hawthorne Elementary, Salt Lake City, UT – RockSim Computer Rocketry Program
- **Lori Loadholtz**, San Jose Catholic School, Jacksonville, FL – After-school Robotics Program for Middle School
- **Benjamin Lucero**, South Mountain High School Aerospace Magnet Program, Phoenix, AZ – CAP's Journey of Flight Extension to Pima Air/Space Museum
- **Tammy Martin**, Dekalb County Schools Annex, Rainsville, AL – Aerospace Career Exploration Program
- **Laura Pink**, Antioch Elementary, Crestview, FL—School-wide Teacher/Student Rocketry Program
- **Michael Reynolds**, E-Techs Charter High, Sparks, NV—Scuba Diving Neutral Buoyancy Program
- **Lee Wheeler**, Dooly County High, Vienna, GA—High School TARC Team Development
- **Rebecca Wood**, Kemmerer Elementary, Diamondville, WY—Space Program: Learning, Teaching Younger Students, & Space Day Event

Congratulations! And, much gratitude to the Air Force Association!

Recent AFA Grant recipients share after-action appreciation:



Carl McElwee, AE Officer for Kansas 123 Squadron, used his AFA Grant funds to conduct an open house for cadets and adults to work together to

build and fly radio-controlled aircraft. Bringing in youth in the community provides an opportunity for more young people to learn about what the CAP and AFA do for youth in communities across the country.

CAP and AFA Work Together for Outreach AE Initiatives in Communities

The Arizona Wing Aerospace Education Team honored Veterans while introducing the community to CAP. The AZ Wing works alongside the AZ Air Force Association to recruit cadets and teachers for CAP's cadet and AE programs. This partnership sets the standard for how CAP and the AFA can work together to both fulfill the mission to educate the public about the importance of aerospace and our military in the future security of our nation. We applaud the AZ Wing of CAP and the AZ State AFA leaders for leveraging their resources for the good of our country.



Once again, CAP extends sincere gratitude to the AFA for dedicated support to the youth of America!

To check out the updated AFA Partnership page on CAP's AE Website, go to www.capmembers.com/afa. There anyone can find out how to join a local AFA chapter; how the AFA provides grants and opportunities for CAP cadet, adult, and teacher members; and all the ways CAP is reciprocally trying to assist local AFA Museum Initiative to find out how CAP, AFA, and Aerospace Museums can work together to provide a powerful synergy to inspire the next generation of air, space, and cyber-space workforce.



From The Deputy Director's Desk.....Dr. Jeff Montgomery

The 5th annual AE Summit took place in Louisville, KY, on August 18, 2011, at the Summer National Board and Conference. Lt Col Mike McArdle, National AE



Advisor, presided over the summit, which was attended by 18 wing, region and NHQ folks. Included in the agenda were presentations from the AE Leadership Teams. Several members of the teams presented status reports on their projects. Some of the presentations included: proposed changes to CAPR 280-2 and CAPR 50-20; a proposed survey concerning AEO issues to be distributed to Aerospace Education Officers (AEOs); a report on recruiting/retaining Aerospace Education Members (AEMs) that included a discussion about workshops and academic credits; progress on the AE Staff College; discussion about the AEO Schools; wing and region finances as they relate to AE; compliance inspections; grants; available AE resources; TOP Flight regulation; and several curriculum projects. Wonderful discussions and ideas flowed during and after each of the presentations. Great progress has been made in all of these areas, and the teams are working these projects to completion. The hard work and dedicated efforts from the teams are very evident and much appreciated. The new AE Leadership Team structure is working very well, and this summit attests to that. Thanks to all of the AEOs who attended, and also to those who prepared reports, but were unable to attend. The next AE Summit will be in Baltimore, MD, in August 2012 at the Summer National Board.

We would like to applaud the winners of this year's AE awards. Here is a listing of those winners:

Brewer Awards:

Cadet Category I – C/Maj Aaron Evans, Indiana Wing



Senior Member Category II – Maj Pam Becker, Florida Wing

Individual/Organization Category III – Thomas Milnes (Evergreen Museum)



Lifetime Achievement Category IV – Col John Barainca, Utah Wing



AEO of the Year – Lt Col Roland Dewing, New Mexico Wing



Photos show CAP National Commander Brig Gen Amy Courter, presenting the awards to each recipient. (Pam Becker and Megan Tucker were unable to attend but the FL Wing Commander, Lt Col Michael Cook, accepted on their behalf.)

National AE Teacher of the Year – Megan Tucker, Florida

AE Mission Awards:

National 1st place – Florida

National 2nd place – Texas

National 3rd place – New York

AE Regional Mission Awards:

Northeast – New York

Middle East – North Carolina

Southeast – Florida

Great Lakes – Wisconsin

North Central – Minnesota

Southwest – Texas

Rocky Mt – Colorado

Pacific - Washington

Answers to questions on front page:

1. Compared to the previous Mars rovers, Curiosity is about twice as long and more than five times as heavy.

2. A radioisotope power source will provide heat and electric power to the rover.

3. Curiosity should arrive on Mars in August 2012.



REGION TO REGION

For information on other pertinent dates for CAP Members and Educators, go to our calendar at www.capmembers.com/ae.

NORTHEAST REGION

October 27-29

National Science Teachers Association (NSTA) will hold an Area Conference in Hartford, Connecticut at the Connecticut Convention Center. CAP AE will be present in the exhibit hall. Stop by and see us in booth #627.

<http://www.nsta.org/conferences/2011har/?lid=tnav>

November 30 - December 2

The Pennsylvania Science Teachers Association Conference will be held at the Hershey Lodge and Conference Center in Hershey, Pennsylvania.

<http://pascience.org/>

MIDDLE EAST REGION

November 2-4

The South Carolina Science Council will hold its annual fall conference at the Myrtle Beach Convention Center in Myrtle Beach, South Carolina.

<http://www.southcarolinascience.org/>

GREAT LAKES REGION

October 27-29

The Illinois Science Education Conference will be held at Tinley Park Convention Center in Chicago, Illinois.

<http://www.ista-il.org/>

December 3

The Engineering Education Service Center is offering a Train the Trainer workshop for those interested in presenting a Mother/Daughter Technology Engineering Aptitude (TEA) event. This workshop will be held in Columbus, Ohio.

<http://www.engineeringedu.com/pw/register.html>

SOUTHEAST REGION

October 20-22

The Florida Association of Science Teachers will hold its Professional Development Conference at the International Palms Resort in Orlando, Florida.

<http://www.fastscience.org/>

November 12-13

2011 Fantasy of Flight Airshow will be held in Polk City, Florida.

<http://www.fantasyofflight.com/roar-n-soar/>

February 16-18, 2012

The 2012 Georgia Science Teachers Association Annual Conference will be held in Atlanta, Georgia.

<http://www.georgiascienceteacher.org/>

NORTH CENTRAL REGION

No events for this issue.

SOUTHWEST REGION

November 10-12

NSTA Area Conference will be held in New Orleans, Louisiana.

<http://www.nsta.org/conferences/2011new/?lid=tnav>

November 17-19

Science Teachers Association of Texas will hold the Conference for the Advancement of Science Teaching at the Dallas Convention Center in Dallas, Texas.

<http://stat.org/cast2011>

ROCKY MOUNTAIN REGION

No events for this issue.

PACIFIC REGION

October 21-23

The California Science Teachers Association Conference will be held in Pasadena, California at the Pasadena Convention Center.

<http://www.classroomscience.org/conference>

November 12

The Engineering Education Service Center is offering a Train the Trainer workshop for those interested in presenting a Mother/Daughter Technology Engineering (TEA) event. This workshop will be held in Eugene, Oregon.

<http://www.engineeringedu.com/pw/register.html>

November 12-13

Aviation Nation 2011 airshow celebrates 70 years of air power in Las Vegas. This event will be held at Nellis Air Force Base in Las Vegas, Nevada.

<http://www.nellis.af.mil/aviationnation/>

December 8-10

NSTA Area Conference will be held in Seattle, Washington.

<http://www.nsta.org/conferences/2011sea/?lid=tnav>

January 5-8, 2012

The 10th annual Hawaii International Conference on Education will be held at the Hilton Waikiki Beach Hotel in Honolulu, Hawaii.

<http://www.hieducation.org/>

Special Events

A Nationwide Real World Challenge!

Team registration for the FREE FY12 Real World Design Challenge (RWDC) is now open! This annual aviation design competition is for teams of 3-7 high school students. The Challenge is FREE for students and teachers. Each teacher that signs up a team will receive \$1 million in professional engineering software, as well as access to mentors from industry, government, and academia. Every state champion team receives an all-expenses-paid trip to Washington, D.C. Students have earned paid internships through their participation. And last year's National Champions got to present their work to President Obama at the White House. Until November 18th, schools can sign up as many teams as wanted, and can change the team members between registration and the beginning of the competition, if needed. To find out more about this year's Challenge, go to www.realworlddesignchallenge.org and click the link to register a team. Cadets: Share this with your leaders AND your teachers!