



Nov. - Dec. 2003

News

AEROSPACE EDUCATION

Inspiring Students to Excel



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Jim Mallett.....Director
 Judy Rice.....AE Deputy Director
 Judy Stone.....Editor
 Peggy Greenlee.....Layout/Graphics
 Contributing Writers:
 Kathy Baucum
 Joan Emerson
 Ben Millspaugh
 Jeff Montgomery
 Claudine Sayegh
 Barry Spink
 Beth White

AE Partners.....Technical Articles

If you have news, events, or ideas we might consider for the newsletter, please submit them electronically to jstone@cap.gov. Thank you and we wish you a safe and happy holiday season!

Your AE Staff

REACH, TEACH, INSPIRE - You Can Shake on It!

by Dick Rutan, Voyager Commander

One never knows when a life can be changed. When asked to lecture at youth forums around the country, you can find me greeting the attendees at the door with a handshake. Later, during my lecture, one of the first things I say is, "Today I've shaken the hand of a future pilot, a future CEO of a large company, a future firefighter, a future congressman or woman, and possibly a future President of the United States." At that moment, each young person sits up a little straighter and is a bit more attentive because they truly believe that one of those people could be them. And it can be.

As an adventurer, test pilot, and entrepreneur myself, I see so much promise in young people today. They have their lives, their dreams, and their successes ahead of them. What they need are people to help guide them and sometimes push them a little harder so they can realize their potential and not 'settle' for second best. I explain to them that



being first at something captures the milestone. After all, who was the second to set foot on the moon? Or the second to break the speed of sound? I

always explain that not being first is not failing. Never having tried is what amounts to failure.

I've made the attempt at many projects that have been successful, and many projects that have not. And even at my age, I am constantly learning, constantly striving, and constantly pushing myself just a little harder. You're never too old to learn, you're never too old to teach or to guide someone else.

Take the time to shake some hands and inspire some dreams. Remember, "If you can dream it, you can do it." And you'll never know if you don't try.

"TEACHING TODAY FOR TOMORROW"

THE conference of 2004 you will not want to miss! Come prepared to build on the excitement with peers, aviation heroes & enthusiasts, and many others at the Atlanta Marriott Marquis, March 24 - 27, 2004. "Teaching Today for Tomorrow," will focus on preparing students for future aerospace industry careers. The emphasis will be on hands-on, minds-on sessions applied to learning appropriate for all grade levels.

Among the speakers at the 2004 National Congress will be Jim Voss, former International Space Station crewmember and currently Associate Dean of Engineering for

External Affairs at Auburn University; Dr. Betsy Rogers, National Teacher of the Year; Ken Blackburn, world record holder for paper airplane sustained flight; Gus McLeod, planning the first flight

Continued on page 3



NCASE 2003 Seminar

UAA and CIVIL AIR PATROL

Shortly after the end of World War II, the University Aviation Association was established with the purpose of originating, developing and promoting aviation education at the university level. Today, the organization has more than 750 members from colleges and universities as well as the aviation industry. The organization represents more than 115 Institutional members that offer two- and four year degrees in air traffic control, aviation studies, avionics/electronics, flight, maintenance, management and other specialty areas.

The objectives of UAA have expanded through the years to include encouraging individuals to pursue aviation-related careers and serving as a resource for aviation education information. Career seminars, summer programs and teacher workshops are a few of the programs offered by the organization or its members. Additionally,



UAA Seminar Students Visit Canadian Space Agency

UAA has worked with the Civil Air Patrol for more than 20 years by hosting a multitude of educational and career sessions during the National Congress on Aviation and Space Education. The organizations are exploring avenues for increased collaboration for providing opportunities and resources to the members of both organizations.

Among the various resources provided by the UAA are two publications that provide valuable information for students and their parents as well as educators and counselors. In October, the organization

will release its 2003 edition of the Collegiate Aviation Guide—a comprehensive directory of colleges and universities throughout the United States that offer aviation programs. Another publication, the Collegiate Aviation Scholarship Listing, lists information on more than one million dollars in scholarships. These publications are being offered to Civil Air Patrol members at a discounted rate.

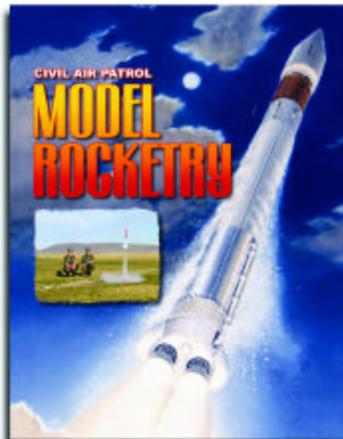
For more information about UAA, visit its Web site at uaa.auburn.edu

COMING ATTRACTIONS

MODEL ROCKETRY

The long-awaited revision to the CAP Model Rocketry Program will arrive by the November all-unit mailing (if not earlier). The full color 88-page booklet is divided into three parts with progressively more challenging written tests and hands-on activities. Each activity has step-by-step directions and photographs to assist adults helping students progress and successfully complete the program. CAP cadets successfully completing the program are authorized to wear the Model Rocketry Badge. The written examinations will be mailed under a separate cover and must be protected in accordance with CAP Regulation 50-4, Test Administration and

Security. Meanwhile, the draft of the new CAP Regulation 50-20, CAP Model Rocketry Program, is now under final coordination by our staff before final approval by the National Board.



Aerospace Education Foundation (AEF) Grants



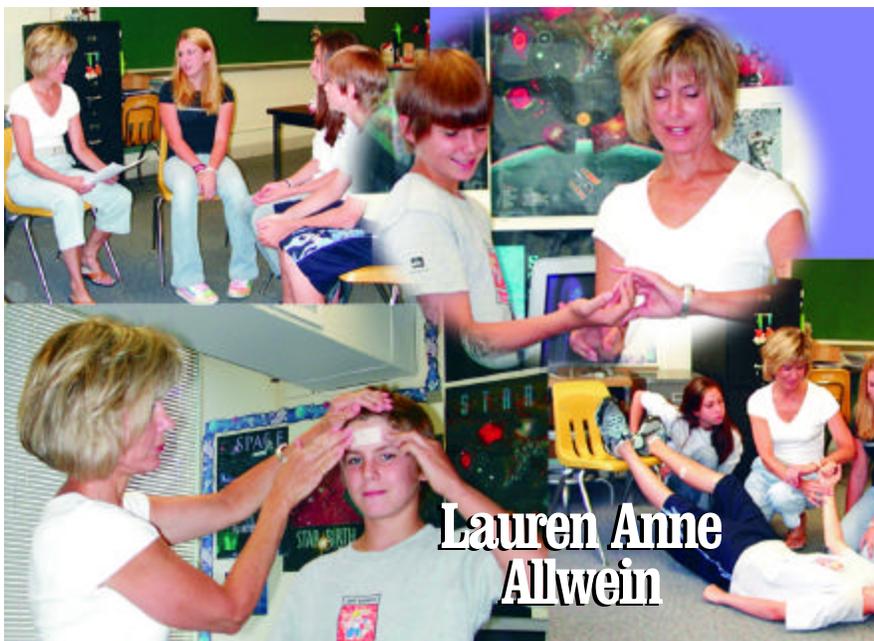
The fall cycle for AEF grants just ended and the grants should be awarded soon. So, now it's time to prepare for the Winter Cycle, CAP Unit Grants. These grants are awarded for promoting aerospace education within your units. Each winner will receive \$250 from AEF. The deadline is December 31, 2003. Send your applications to HQ CAP/LMA or fax to (334) 953-4235. You can download your applications from the CAP/LMA web site.

IN THE AEM SPOTLIGHT...

Lauren Allwein is a seventh grade science teacher at Euclid Middle School in Littleton, Colorado. She became interested in aerospace education after attending a Civil Air Patrol symposium at the U.S. Air Force Academy in the winter of 1996. The featured guest speaker, A. Scott Crossfield, inspired Lauren with the phrase "it is dreams that make life worth living." His speech motivated Lauren to develop two aerospace classes, "Dreams of Flight" and "Space Odyssey". Lauren knew that children of all ages are fascinated with flying machines and this knowledge in turn led her to develop two classes that excited her students. Lauren's close friend and department chair was Crystal Bloemen, the 2002 Crossfield Aerospace Teacher of the Year. In the Spring of 1996, Crystal and Lauren submitted a proposal to the Littleton Public School administration to start a two part aeronautics/aerospace program that would impact the lives of approximately 200 students each year. It became a tremendous success and has received district, state and national acclaim.

Lauren's background consists of a Bachelor of Science Degree from California Polytechnic State University at San Luis Obispo, California and a Master Degree in Computer Technology from Lesley University. She has been on the staff of several U.S. Air Force Academy Symposia and has taken more than 30 hours of advanced aerospace workshops from NASA, the U.S. Space Foundation and the Civil Air Patrol. In 1999, she received the chapter, state and regional Aerospace Teacher of the Year awards from the Aerospace Education Foundation.

Lauren is currently working on an advanced space science pro-



gram through the National Space Biomedical Research Institute in conjunction with Baylor University School of Medicine and NASA. She is an active AEM member of Civil Air Patrol and was one of the first teachers in the U.S. to implement the AE2000 and AEX programs. As a result of her efforts, nearly 1000 middle school children have been introduced to the wonderful world of aerospace education. Congratulations to one of America's best AE teachers, Lauren Allwein. ■

"Teaching Today for Tomorrow"

(Continued from page 1)

around the world in an open cockpit airplane; Joe Edwards, former Navy fighter pilot and astronaut, and current Chairman of the National Science Center; Anthony Fowler, interagency coordinator for the U.S. Dept. of Education, who will discuss the "culture of achievement", defined under the No Child Left Behind Act.

A reception with Exhibitors on Wednesday evening will open the 2004 National Congress. This will be followed by an informal 'Hangar Talk' with Scott Crossfield, Joe Edwards, Gus McLeod and Jim Voss. There will also be Saturday off-site tours that will include some of the following: Lockheed, FAA Flight Safety Center, Delta, Fernbank Museum and SciTrek Museum.

The conference is rated for 30 contact hours of continuing education credit. At only \$99 per person, the registration fee is a bargain for this valuable educational event. Registration information is posted online at:
<http://www.cap.gov/events/ncmain.html>

Answer to Cappy's Quiz: b.

Did You Know?

The Wright brothers first flight was shorter than the wingspan of a B-52 bomber.



REGION TO REGION

NORTHEAST REGION

Nov 5-7 - The Massachusetts Association of Science Teachers (MAST) will hold their conference in Worcester, MA. For more information, go to www.mast.nu/convention/convention03.html.

Dec 3-5 - The Pennsylvania Science Teachers Association (PSTA) Conference will be held in Hershey, PA. For more information, go to: www.pascience.org/conventions.htm.

MIDDLE EAST REGION

Nov 5 - Tom Crouch presents the History of the Wright Flyer at 7 pm in Hampton, VA. This educational activity will captivate audiences with an interesting, informative, and fun talk about the famous and misunderstood inventors of flight - Orville and Wilbur Wright. Contact Kim Hinson at khinson@widomaker.com for more information.

Nov 7-9 (9:00 am - 4:00 pm) - Celebrate Freedom 2003 Festival. This air show is an educational event for school children (Nov. 7) featuring aircraft from the Wright Flyer through the space age. Website info is at www.CelebrateFreedomFoundation.org or email Anna Amick at celebratefreedom@earthlink.net.

Nov 15 - A musical theatre production called "Right Place, Right Time, Wright Brothers" will be presented in College Park, MD at 11am. Contact Brigid Nuta at brigid.nuta@pgparks.com.

Dec 3 - Betty Geiger-Darst portrays Katharine Wright in a living biography. This educational activity takes place in Hampton, VA at 7 pm. Point of contact is Kim Hinson at khinson@widomaker.com.

Dec 12-17 - The National Park Service in Kill Devil Hills, NC, will be hosting a gala of activities at Wright Brothers National Memorial to celebrate the First Flight Centennial. For more information, contact Outer Banks Visitors Bureau at visitorinfo@outerbanks.org.

Dec 15 - At 10 am in Chantilly, VA, the Steven F. Udvar-Hazy Center will open. This National Air and Space Museum companion facility is located at Washington Dulles International Airport and will ultimately display some 200 aircraft and 135 large space artifacts. Go to www.nasm.si.edu for information or contact the Smithsonian Institution at golkinp@nasm.si.edu.

GREAT LAKES REGION

Nov 6-8 - Kentucky Science Teachers Association Conference will be held in Lexington, KY. For more information, go to www.ksta.org/conference/matrix.asp.

SOUTHEAST REGION

Nov 6-8 - National Middle School Association Annual Conference will be held in Atlanta, GA. For more information, go to: www.nmsa.org/annualconf2003/atlanta.html.

Dec 3-5 - Tennessee Education Technology Conference will be held in Nashville, TN. For more information, go to: www.state.tn.us/education/tetc/.

Dec 11-14 - Association for Career and Technical Education Conference will be held in Orlando, FL. For more information, go to www.acteonline.org/convention/index.cfm.

Jan 22-24 - Florida Educational

Technology Conference will be held in Orlando, FL. For more information, go to: www.fetc.org/fetc2004/index.cfm



Teacher workshop field trip.

NORTH CENTRAL REGION

Nov 13-15 - South MidWestern Area Convention for National Science Teachers Association. Location of convention will be Kansas City, MO. Go to: www.nsta.org/conventions for further information.

SOUTHWEST REGION

Ten educators recently received Aerospace Education memberships due to the generous sponsorship of Pepsi Cola Bottling Company of Tulsa, OK and long time Pepsi employee Melvin Cassell. Each Tulsa educator attended a briefing on Civil Air Patrol and will receive AE materials for use in their classroom to enhance their students' learning experiences.

Lt Col Cassell is a member of Civil Air Patrol and has supported



REGION TO REGION

aerospace education and cadet programs for many years.

Dec 4-6 - The Louisiana Science Teachers Association (LSTA) Conference will be held in New Orleans, LA. For more information, go to: <http://members.cox.net/lstaweb/conven/conven.gim>.

ROCKY MOUNTAIN REGION

Nov 6-8 (9am - 3pm) - The educational activity "Celebration of Flight: Past, Present, Future" will be

a premiere event with educators (preschool through university) involved on Thursday; school groups involved on Friday; and open to the public on Saturday. This event will be held at the United States Air Force Academy in Colorado Springs, CO. Contact Dr. Patricia Arnold at parnold@spacefoundation.org for more information.

PACIFIC REGION

Nov 20-22 - National Alliance of Black School Educators Annual Conference will be held in Reno,

NV. For more information, go to: www.nabse.org/event_nabseconf00.htm.

Dec 4-6 - The Western Area Convention for National Science Teachers Association will be held in Reno, NV. Go to www.nsta.org/conventions to learn more.

Did You Know?



The Wright 1905 Flyer, the first practical airplane, flew for 33 minutes and 17 seconds, covering a distance of 20 miles on October 4, 1905.

AEO NEWS AND VIEWS

SUPPLEMENTAL SPACE MODULE WEB BASED

CAP's Aerospace Education Department is developing an exciting new space module that will be located on CAP's web site. This module will contain lots of new information not covered anywhere else within aerospace education, plus several scenarios using Satellite Tool Kit (STK) technology, and other hands-on activities. It will take a current look at the International Space Station and Mars, and a future look at the business of space. It will also discuss X PRIZE, the competition to build a spaceship to go to the edge of space.

This module will be a supplement to the Aerospace Dimensions modules. As such, the module will not be a part of the advancement through the cadet promotion system. There will be no formal evaluation process. This module is strictly informational. However, we have

included some of the latest space knowledge available and hope you will find the module full of exciting new information.

The module will be divided into six chapters: (1) X PRIZE; (2) Satellites and STK; (3) ISS; (4) Mars; (5) Astronomy; and (6) The Business of Space.

This module should be on the CAP web site by mid October. We hope you enjoy it and visit the site often. We will keep you informed as to the location of this module when it comes out.



CAPPY'S QUIZ



Recently, hurricane Isabel brought over 100 mph winds, heavy winds, and considerable flooding to North Carolina, Virginia, and several other states. If Isabel's winds were between 96-110 mph, then according to the Saffir-Simpson Hurricane Damage Potential Scale, what intensity category was Isabel?

- 1
- 2
- 3
- 4
- 5

See Page 3 for the answer.

AEO IN THE SPOTLIGHT

An airplane ride when he was a youth made aviation a life-long endeavor for Peter Boulanger, Capt. CAP. He said, "I remember telling my mother that someday I would be a pilot." Today, he is a cadet orientation pilot and the Aerospace Education Officer for the Wisconsin Wing Fox Cities Composite Squadron (FCCS).

Living in Wisconsin made getting to the annual EAA convention and air show easy, but at first that was as close as he could come to aviation. It was after he finished college that Capt. Boulanger had the opportunity to earn his private pilot certificate. However, the opportunity and justification to fly was elusive, especially after the addition of twin sons in the family. "I was just about ready to abandon flying if I couldn't find a good use for it." The Civil Air Patrol was that good use.

During the next EAA convention Capt. Boulanger visited a number of organizations that were seeking volunteer pilots. CAP immediately appealed to him and he joined the FCCS the following month. "After attending my first squadron meeting I knew this would be an organization with which I would have a long relationship," he said.

After joining to put his flying skills to use, Capt. Boulanger found this to be a small part of his CAP involvement and enjoyment. "I think, because of my Engineering background, I understood a lot of the technical issues regarding aviation. I think this is what led to my role at Aerospace Education Officer. Capt. Boulanger accepted the position with some apprehension. "I had no teaching experience, and was not familiar with the CAP A/E program. And I had obligations to family and work. But I found I really enjoyed sharing what I had learned."

Actually, Capt. Boulanger has performed so well as A/E Officer that his squadron has received the Aerospace Education Excellence Award for six consecutive years, and earned the Wisconsin Wing's Outstanding Aerospace Education



Program award in 2002 as well as receiving an "Outstanding" in the squadron Subordinate Unit Inspection (SUI).

The unit has been named the Squadron of Merit for two consecutive years and was named the Squadron of Distinction for 2003. While there is a number of factors that lead to awards such as these, a strong Aerospace Education program is vital to receiving such awards.

Capt. Boulanger also was the recipient of the Wisconsin Wing's Outstanding Aerospace Education Officer for 2002, the Squadron Senior Member of the Year for 2002, and has received a number of Commander's Commendations. But he feels the greatest rewards are the appreciation and enthusiasm of the cadets, and the accolades of fellow CAP members. Several squadron members credit the incredible growth of the squadron's cadet membership to an exciting A/E program. The Fox Cities squadron has more than 40 active cadets, which is approximately 12% of the total number of cadets in the Wing. Michael McArdle, the Wisconsin Wing Director of Aerospace Education, has stated of Pete's Aerospace Education program; "If I had to pick one Aerospace Education program for all the remaining squadrons to

emulate, the Fox Cities Composite Squadron would be the model".

The FCCS A/E program includes hand-on cadet instruction in two and four-line kites, remote control aircraft, and model rockets. The remote control opportunity was made possible through a grant from the Air Force Association. Guest speakers are also a part of the program and include a presentation by a planetary geologist who shared her experiences with the Mars Galileo, Clementine, Pathfinder and "Polar Lander" projects. Tours of museums, planetariums, FAA facilities, and area aviation-related organizations such as Air Wisconsin are regular scheduled events.

Capt. Boulanger's AE experience enabled him to play a vital role in the National AE Cadet School held in Oshkosh in 2003 where he instructed the cadets in model rocketry.

His expertise in aerospace education also led him to receive adjunct faculty positions with area colleges where he teaches calculus, physics, and engineering courses.

"I would like to continue to volunteer with AE programs and hope, someday, to be a CFII (Certified Flight Instructor Instrument). That will allow me to continue to support the CAP cadet programs. CAP has led to a number of wonderful opportunities. I wish I had known about the program when I was a youth," he said.

CURRICULUM CORNER

WRIGHT BROTHERS - READ AND BUILD

The pattern, building directions, and accompanying photographs for this lesson were developed and provided by Civil Air Patrol Major William H. Jackson, the Director of Aerospace Education for New Mexico Wing Civil Air Patrol.

Objective(s):

1. Students will read and report on literature concerning the Wright Brothers.
2. Students will create a model of the Wright Flyer to accompany the report.

National Standards:

English Language Arts

2. Understanding the Human Experience
3. Evaluation Strategies
4. Communication Skills
5. Communication Strategies
6. Applying Knowledge
12. Applying Language Skills

Materials:

Wright Brothers literature (see list), a set of pattern sheets for each student, scissors, and glue.

Background Information:

From a windy beach in North Carolina to space in just 100 years! Mankind has flown across oceans; around the world; faster than the speed of sound; walked on the moon; and is looking at ordinary citizens being able to experience the wonders of space travel. We are a remarkable species with capabilities beyond our wildest dreams. These possibilities can be instilled in each child to participate in the future of space travel and aviation marvels here on Earth. This lesson will give them some historic perspective about the two brothers that knew no boundaries and whose persistence and ability to learn led to one of mankind's most significant accomplishments.

Teacher Notes:

1. The pattern sheets can be downloaded at: <http://nmwg.cap.gov/santafe/Activities/Word%20Documents/WrightFlyer.doc>.

Or enlarge the pattern pages printed here....each page was reduced to 50%; enlarge so each fills an 8 1/2" by 11" sheet of white card stock. The instructions and pictures for assembling can be found at <http://nmwg.cap.gov/santafe/Activities/WrightFlyer.htm>.

2. Instruct students to use scissors with care.
3. Schedule the building activity over several class periods, allotting time appropriate to the model-building skill of the students.
4. Have students bring a shoe box or similar container in which their Wright Flyer parts can be safely stored between class sessions. This will help eliminate lost parts and will make the process flow more smoothly.

Procedure:

1. Have students read one of the literature choices from the list and write a one-page report on the Wright Brothers. Have them include what they think will happen in space and aviation in the next 100 years.
2. Using white card stock, print a set of two pattern sheets for each student.
3. Have them work on their models and reports in class and share the results with the group.

LITERATURE SUGGESTIONS:

To Fly: The Story of the Wright Brothers

Wendie C. Old
Clarion Books, 2002

My Brothers' Flying Machine

Jane Yolen
Little Brown and Company, 2003

The Wright Brothers for Kids:

How They Invented the Airplane

with 21 Activities Exploring the Science and History of Flight

Mary Kay Carson
Chicago Review Press, 2003

First to Fly: How Wilbur & Orville Wright Invented the Airplane

Peter Busby
Crown Publishing, 2003

Airborne: A Photobiography of Wilbur and Orville Wright

Mary Collins
National Geographic, 2003

Into the Air: The Story of the Wright Brothers' First Flight

Robert Burleigh
Silver Whistle Paperbacks, 2002

For Younger Readers:

Taking Flight: The Story of the Wright Brothers

Stephen Krensky
Aladdin Library, 2001

First Flight: The Story of Tom Tate and the Wright Brothers

George Shea
Scott Foresman, 1997

The Wright Brothers

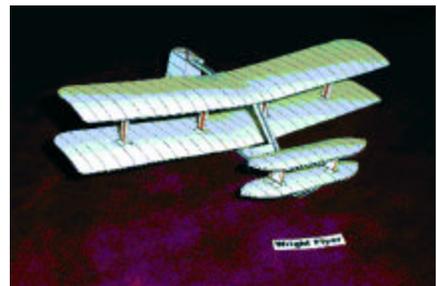
Pamela Duncan Edwards
Hyperion Press, 2003

Rationale:

This lesson provides an opportunity for students to learn how the Wright Brothers invented the airplane and build a model themselves.

Assessment:

Use a rubric to evaluate the report and model.



Wright Brothers - continued

Patterns reduced 50%. Complete directions and patterns can be downloaded at:
<http://nmwg.cap.gov/santafe/Activities/WrightFlyer.htm>

