Aerospace Education Excellence Award Program for America's Youth

Exciting
NATIONAL STANDARDS-BASED Education Program

A MARS *Program*
Making Aerospace Real for Students
2004-2005

FREE to CAP's Aerospace Education Members

Sponsored by:
Civil Air Patrol and United States Air Force
www.cap.gov

Exactly what is Civil Air Patrol and what is the Aerospace Education Excellence Award Program?

What is Civil Air Patrol (CAP)? Civil Air Patrol is the official auxiliary of the United States Air Force. Formed Dec. 1, 1941, CAP is a nonprofit, humanitarian organization that has grown to approximately 64,000 volunteer members. It is best known for search and rescue and disaster relief but also is chartered by the United States Congress to promote aerospace education across the nation.

Why does CAP offer the AEX program? CAP promotes the use of aerospace themes to help educators excite and motivate their students to excel in science, math, technology, language arts, social studies, and other traditional subjects. The AEX award program allows enrichment and practical application of core curriculum skills.

Who can participate in the AEX program? Educators who are Aerospace Education Members (AEMs) of Civil Air Patrol can participate **FREE** of charge. AEMs receive their choice of over **20 FREE educational products.**

If you do not desire to participate in the AEX award program, but <u>want to join as an Aerospace Education Member (AEM)</u>, please turn to the information on pages 11, 12, and 13.

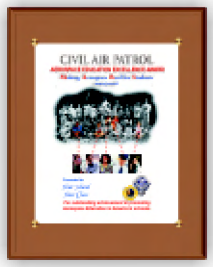
AEROSPACE EDUCATION EXCELLENCE (AEX) AWARD PROGRAM for AMERICA'S SCHOOLS

The United States Air Force and Civil Air Patrol, the official Air Force Auxiliary, are proud to join hands and present this program.

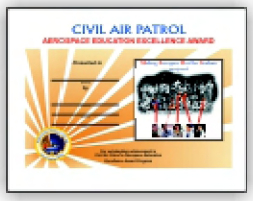
This Aerospace Education Excellence Award (AEX) program is offered **FREE** of charge to educators who are Aerospace Education Members of Civil Air Patrol. Membership is open to any educators including those in homeschools, youth groups, and non-traditional education programs.

Educators can select from one of three age-appropriate books. **AEX I** is designed for kindergarten to grade 5 **AEX II**, and **AEX II Vol II** for grades 6 to 12. Each book contains numerous fun-filled, hands-on, educational activities to excite and motivate your students.

- ★ **National Standards** have been identified for all activities for easy alignment with any core curriculum.



Educator participation will be rewarded with a beautiful plaque to proudly display.



Students will be rewarded with an impressive certificate of completion to take home to parents.

This brochure contains all the information you'll need to get started, so please read on.

AEROSPACE EDUCATION EXCELLENCE AWARD

AEX
Award Program

Because our Aerospace Education Members (AEMs) are valued members of CAP and help us bring aerospace education to the students of America, we are extending this special invitation to YOU. We believe our AEMs **M**ake **A**erospace **R**eal for **S**tudents, and we would like to honor their efforts with the beautiful AEX Award plaque. This is just one of the many **MARS** programs we will be providing our AEMs in the years to come. This program is absolutely **FREE** to our AEMs. Any educator can begin this exciting program with students anytime during the school year.

The Rules

Participants must be current Aerospace Education Members of Civil Air Patrol. **Complete page 12** to become an Aerospace Education Member. **Complete page 9** to participate in the AEX program for either Kindergarten to grade 5 or grades 6 to12.

Participants can select from three age-appropriate activity books. AEX I is designed for grades Kindergarten to grade 5, AEX II and AEX II Vol II for grades 6 to 12. Each book contains a variety of fun-filled, hands-on, educational activities to excite and motivate your students. These range from individual exploration activities and group-building projects, to discovery and awareness activities involving aerospace careers and notable aerospace personalities. **National education standards** accompany the activities.

Six activities must be completed during the current school year. Three of the six activities must be from the AEX curriculum.

Substitute activities **require** copies of lesson plans to be **attached to** the report form **on page 10.**

One two-hour aerospace-related activity is required, such as: an airport tour; building and launching hot-air balloons or rockets; aerospace careers day; aviation/space museum tour; or numerous other worthy aerospace activities as determined by the teacher.

AEX AWARD

Awards and Certificates

When you complete the previously named required activities, you will receive a beautiful 11 1/2" X 14" walnut-stained wooden plaque with a top-quality, professionally designed award certificate to proudly display (see picture on page 5). Along with your plaque, you will receive a letter of congratulations to your principal for presentation to you and your students at an appropriate occasion.

In addition to the special plaque designed especially for this program, we have developed an outstanding Student Participation Certificate (see picture on page 6) for you to give to your students when they complete the program. If you would like to present these certificates to your students, be sure to mark the appropriate box on your activity report form.

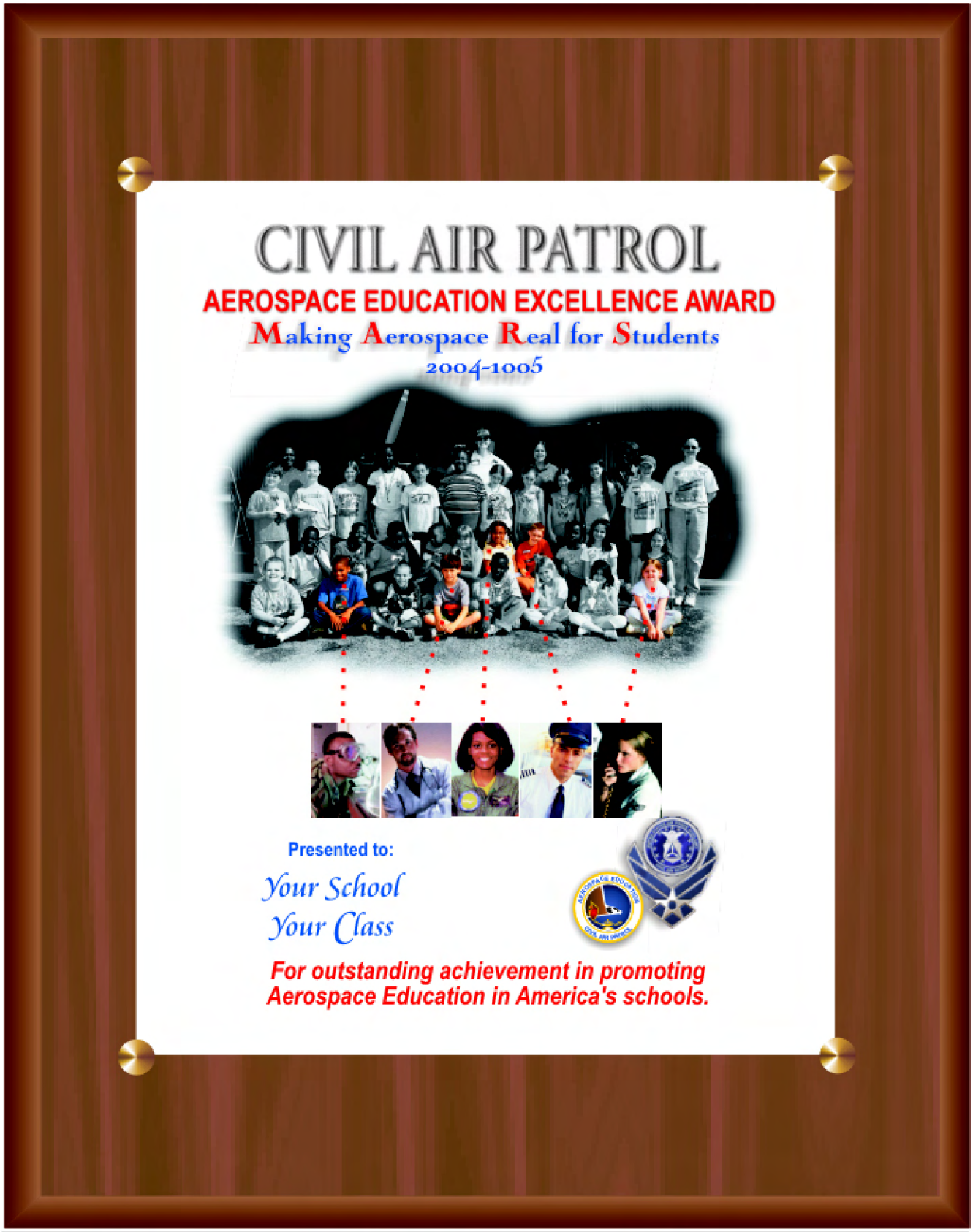
Please submit your activity report (page 10) four weeks prior to award presentation to ensure you receive your plaque and student certificates.

If you have any questions, please contact National Headquarters, Civil Air Patrol as follows:

National Headquarters, Civil Air Patrol
Aerospace Education
105 South Hansell Street, Building 714
Maxwell Air Force Base, Alabama
36112-6332

Phone: 334-953-5004/4213
FAX: 334-953-4235
E-mail: aex@cap.gov

Mrs. Sanders Second grade class at Headland Elementary School, Headland, Alabama, receives their AEX award plaque and their student certificates for completing the Civil Air Patrol Aerospace Excellence Award Program for 2003-2004.



This beautiful plaque could be yours !

(Only one plaque can be awarded to a participant during the school year.)

CIVIL AIR PATROL

Official Auxiliary of the United States Air Force

AEROSPACE EDUCATION EXCELLENCE AWARD

Presented to

_____ (Student)

by

_____ (Teacher)

_____ (School)

_____ (Date)

For outstanding achievement in Civil Air Patrol's Aerospace Education Excellence Award Program

Your students will be proud to take home this SPECIAL AWARD CERTIFICATE.

CD HOVERCRAFT

OBJECTIVE

The purpose of this activity is to build a simple hovercraft from inexpensive, everyday supplies.

NATIONAL SCIENCE STANDARDS (NRC)

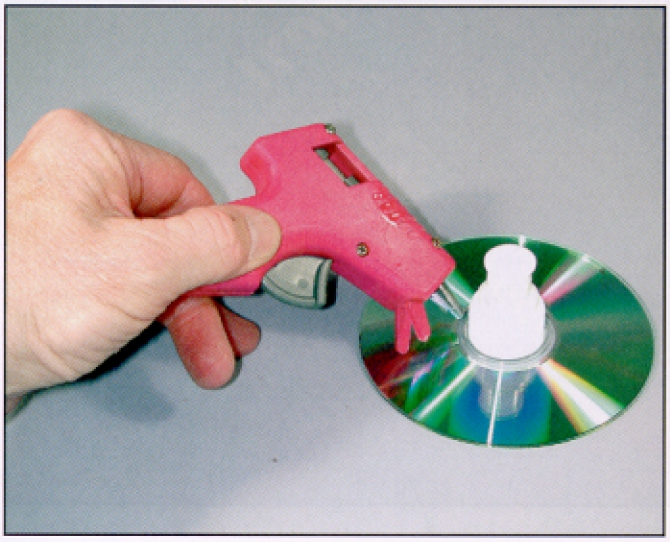
Content Standard B: Physical Science
Motions and forces
Content Standard E: Science and Technology
Abilities of technological design
Unifying Concepts and Processes
Evidence, models, and explanation

BACKGROUND

A hovercraft is also known as an ACV or "air cushion vehicle." It travels on a layer of compressed air that keeps just above the surface of the Earth. The compressed air serves as an invisible cushion that eliminates almost all of the friction between the vehicle and the ground. Numerous hovercraft are used around the world for civilian and military purposes.

MATERIALS

1. A toy balloon
2. A pop-up lid from a water bottle
3. A hot glue gun
4. A used CD



PROCEDURE

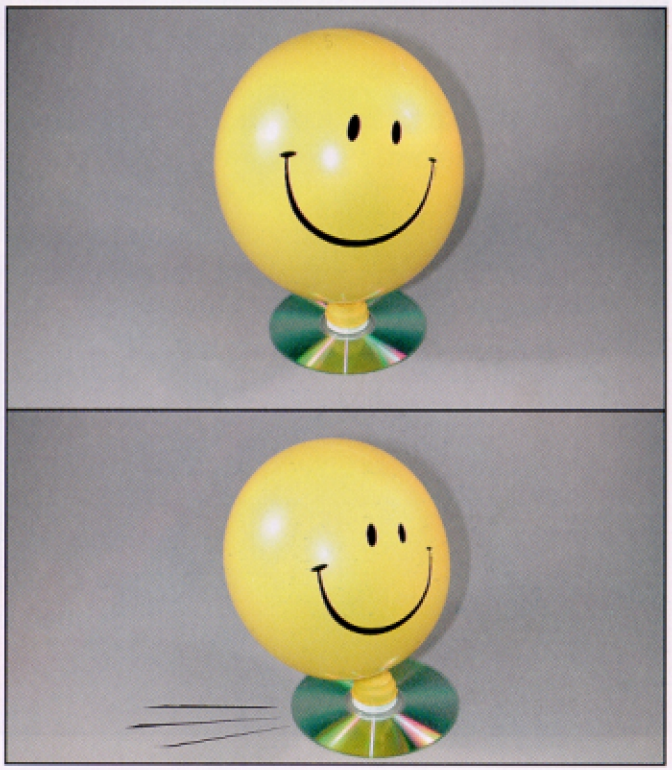
1. The pop-up lid is hot-glued to the water-bottle cap. Be sure that your glue is applied only to the perimeter of the lid and that you make a good air-tight seal to the CD.
2. Make sure the lid is in the closed position.
3. Inflate the balloon, twist it so that the air doesn't come out.
4. Install the balloon onto the bottle lid.
5. Try sliding the balloon along and you will notice a resistance to movement.
6. Now carefully release the lid sealer and let the air flow through the CD. You will notice the little hovercraft starts to move.
7. Blow the balloon up again and when the pressure is released, flick it with your finger and you will be amazed to see it glide away.
8. Variations on this project include a larger balloon and various surfaces. Fun Stuff!

CREDIT - This wonderful activity was taken from the "Energy and Control - Energy From Wind and Water" by the Quinte School Group, WOW Science Initiative- May 2001.

Related web sites:

http://www.jameshovercraft.co.uk/Frames/index.htm

http://www.hoverclubofamerica.org/



AND NOW...

The AEX Award Program

The AEX curriculum books will make it easy for you to prepare an exciting program for your students while meeting national education standards. These products use an aerospace theme to support traditional classroom curriculum such as Science, Math, Language Arts, Social Studies, History, and other subjects. One AEX award plaque will be given for each AEM per school year.

Please return this form to sign up for the AEX program.

Educator Name	
Address	
City	
State/Zip Code	
School Name (If Applicable)	
E-mail Address **(Required)**	
Estimated number of students participating	
AEX Program Activity Books	☐ **AEX I** [kindergarten - fifth grade] ☐ **AEX II** [sixth - twelfth grade] ☐ **AEX II Vol II** [sixth - twelfth grade]

Mail to:
National Headquarters, Civil Air Patrol/LMA
105 South Hansell Street - Bldg 714
Maxwell Air Force Base
Alabama 36112-6332

Fax to:
334-953-4235

E-mail to:
aex@cap.gov

AEX AWARD REPORT

(Submit four weeks prior to presentation)

School or Participant Name _____
(Please print)

Teacher Name _____

Address _____

_____

City _____

State _____ Zip Code _____

Email _____

ACTIVITY 1

Title of Activity _____

_____

Number of Students Participating _____

ACTIVITY 2

Title of Activity _____

_____

Number of Students Participating _____

ACTIVITY 3

Title of Activity _____

_____

Number of Students Participating _____

☐ Please send me _____ AEX Student Award Certificates (up to 150)

ACTIVITY 4

Title of Activity _____

_____

Number of Students Participating _____

ACTIVITY 5

Title of Activity _____

_____

Number of Students Participating _____

ACTIVITY 6

Title of Activity _____

_____

Number of Students Participating _____

2-Hour Aerospace-Related Activity

_____

_____

_____

_____

Send this report and attach substitute lesson plans (if used) to:
National Headquarters, Civil Air Patrol
Aerospace Education
105 South Hansell Street, Building 714
Maxwell AFB., AL 36112-6332
or you may...
FAX to: (334) 953-4235 or
Email to: aex@cap.gov

Aerospace Education Membership Criteria and Benefits

Aerospace Education Membership (AEM) is a special category of Civil Air Patrol membership. It is open to any reputable individual or organization that has an interest in supporting CAP's Aerospace Education Program.

PRIVILEGES AND BENEFITS OF MEMBERSHIP: *

Each individual or organizational designee that joins CAP as an AEM receives the following benefits:

- Civil Air Patrol membership card
- Aerospace Education Membership certificate
- AEM Lapel Pin (one time)
- CAP News (bimonthly newspaper)
- AE News (bimonthly Newsletter)
- e-news (on-line monthly AE news update)
- free national standards-based aerospace educational materials developed especially for AEMs (upon request)
- low-cost aerospace textbooks
- orientation flights in powered aircraft
- awards for schools and students that adopt aerospace education into their curricula
- receives free and low-cost continuing education programs including aerospace education summer workshops and encampments
- Aerospace Education speakers and resources nationwide
- Scholarships for teachers and students interested in aerospace and aviation careers
- eligibility to apply for grants
- attend regional and national conferences
- eligibility to apply for CAP VISA card
- eligibility for car rental discount from Hertz
- purchase life insurance
- purchase health insurance
- purchase materials thru CAPMart
- access to Satellite Tool Kit
- discounts for computer hardware and software
- discounts on aviation and space magazines
- tax benefits, including deductible membership dues and mileage to CAP conferences and activities
- eligibility (for individuals only) to travel on USAF aircraft, **when available**, for approved aerospace education activities
- free publications from the US Air Force Air University Press

MEMBERSHIP ELIGIBILITY CRITERIA:

Individuals: (1) Citizen of the United States or alien admitted for permanent residence. (2) Never convicted or pled guilty to a felony (State or Federal) or currently charged with a felony. (3) Honorably discharged from the armed forces, if served. (4) Student memberships are only offered to undergraduate college students.

Organizations: Any reputable group, organization, business, club, or association. Examples include PTAs, PTOs, schools, school districts, businesses, science clubs, aero clubs, public libraries, nonprofit organizations, aerospace industry groups, etc. No particular affiliation with aerospace is required for membership, only the desire to promote and support aerospace education in America. Each organization joining CAP as an AEM must assign a point of contact (POC) individual. Only the organizational POC is authorized to receive the benefits of membership listed below.

Restrictions:

(Individuals and the Organizational Point of Contact)

a. Not authorized to wear CAP uniform, hold CAP grade, or participate in the senior member program.
b. May not serve in authorized senior member positions in a CAP unit at any level.
c. Special permission is required for flights in Civil Air Patrol aircraft.
d. Aerospace Education Membership time is not creditable towards retirement in CAP.

Screening:

Each application will be screened for completeness and eligibility. Membership must be approved by the CAP Executive Director or his designee.

Membership Year:

The member year starts on the date the AEM application is approved by CAP and is processed by National Headquarters and the individuals name appears on the National Headquarters data base. It terminates 1 year later on the last day of the application approval month. **Note**: If the AEM application is disapproved, the applicant's dues are refunded.

Transfer to regular Civil Air Patrol Membership:

To transfer from AEM to regular CAP membership (at no additional cost for the membership year) submit a **CAP Form 12, "Application for Senior Membership in Civil Air Patrol," with "AEM to Senior - No Charge"** annotated across the top, along with an FBI fingerprint card, through your local CAP unit.

* **Note: A current CAP ID card is required to receive CAP AEM benefits.**

Civil Air Patrol Aerospace Education Membership Application

Social Security Number	
Name	
Residence Address	
Daytime Phone	**E-mail address**
☐ Male ☐ Female	Birth Date

EDUCATION
- ☐ AA
- ☐ BA or BS
- ☐ MA or MS
- ☐ Ed.D. / PH.D.

EMPLOYMENT
- ☐ Teacher
- ☐ Counselor
- ☐ Principal
- ☐ Superintendent

EXPERIENCE
- ☐ 1 Year
- ☐ 2-5 Years
- ☐ 6-10 Years
- ☐ 10- More Years

CLASSROOM TEACHING LEVEL (S)
- ☐ Kindergarten - grade 2
- ☐ Grades 3-6
- ☐ Junior High School
- ☐ High School ☐ AFJROTC
- ☐ College ☐ AFROTC

☐ Homeschool ☐ Organization Name_____

BACKGROUND

1. Citizen of the United States?	☐ Yes	☐ No	
2. If no, are you a resident alien with green card?	☐ Yes	☐ No	If "no," attach explanation.
3. Ever convicted of a felony?	☐ Yes	☐ No	If "yes," attach explanation.
4. Are you **currently** charged with any felony?	☐ Yes	☐ No	If "yes," attach explanation.
5. Served in the armed forces?	☐ Yes	☐ No	
6 If yes, were you honorably discharged?	☐ Yes	☐ No	If "no," attach explanation.

MEMBERSHIP FEE $30.00 per year

- ☐ School Purchase Order attached
- ☐ Check ---- payable to National Headquarters, Civil Air Patrol
- ☐ Credit card --- complete the form below: ☐ Visa ☐ Master Card

Credit Card Number	
Expiration Date	
Daytime Telephone	
Name as it appears on credit card	
Signature of credit card holder	

Send To:
CIVIL AIR PATROL/LMA
Aerospace Education Membership
105 South Hansell Street, Building 714
Maxwell Air Force Base, Alabama 36112-6332
FAX: (334) 953-4235
E-mail: aex@capnhq.gov
Information: (334)953-5004/4213

SIGNATURE OF APPLICANT _____ **DATE** _____

I certify that this applicant is accepted as a member of Civil Air Patrol. Membership commences on the date processed by National Headquarters and the individuals name appears on the National Headquarters data base.

NATIONAL COMMANDER'S DESIGNEE / NATIONAL HEADQUARTERS REVIEW: INITIAL / DATE _____

FREE Educational Materials

to Aerospace Education Members

Submit this request **with your membership application and payment.**

PRE-SCHOOL

- ☐ 4-in-1 Activity Books (two volumes)

KINDERGARTEN-GRADE 6

- ☐ Fun in Flight: Exploring Careers in the Aerospace World booklet
- ☐ Historical Aircraft Drawing Lessons from Aerospace History (dot-to-dot drawing book)
- ☐ Wright Brothers Activity Booklet
- ☐ Amelia Earhart Activity Booklet
- ☐ Charles Lindbergh Activity Booklet
- ☐ Mini-Book of Logic and Puzzles

GRADES 6-8

- ☐ Wright Brothers Thematic Unit
- ☐ Amelia Earhart Thematic Unit
- ☐ Charles Lindbergh Thematic Unit
- ☐ History of General Aviation Thematic Unit

GENERAL AE CURRICULUM AIDS

- ☐ Aerospace Education Bibliography and Resource Listing
- ☐ The Aerospace Curriculum: An Index of Related Topics (Core alignment)

Aerospace Excellence Activity Booklets

AEX I (Kindergarten to grade 5)
AEX II (Grades 6 to 12)
AEX II Vol II (Grades 6-12)
} AEX enrollment required. (See page 9)

- ☐ AE 2000 Volume Fours
- ☐ AE 2000 Volume Five

Single Concept Posters

- ☐ Aeronautical (Concepts)
- ☐ Chronology of Aerospace Events
- ☐ Jet Engines
- ☐ Space Shuttle

CIVIL AIR PATROL/LMA • 105 South Hansell Street • Maxwell Air Force Base, Alabama 36112-6332
Phone: (334) 953-5004/4213 • FAX: (334) 953-4235 • E-mail: aeadmin@cap.gov

NATIONAL CONFERENCE ON AVIATION and SPACE EDUCATION (NCASE)

NCASE is the premier aerospace education conference of its kind in the nation. It is also one of Civil Air Patrol's major contributions to America's aerospace education community. CAP uses this forum to promote science, math and technology in today's classrooms. Since 1968, NCASE has brought together educators from around the nation to learn from a variety of gifted speakers and motivational teachers. Aerospace-oriented hands-on activities for all grade levels are offered in a variety of break-out sessions. Educators share new experiences and discover learning tools that will capture the imagination of their students. Teachers learn how the wonders of aviation and space can be used to teach ordinary subjects in an extraordinary way. Several awards are presented during the conference including the A. Scott Crossfield Aerospace Education Teacher of the Year Award, the National Aeronautic Association's Frank G. Brewer Trophy, National Coalition for Aviation Education Leadership Award, and the Crown Circle for Aerospace Education Leadership.

Be sure to attend the next NCASE! Find out details at: http://www.cap.gov/events/ncmain.html

NCASE

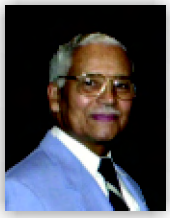
Presents

Heros and Heroines of the Past, Present and Future

A. Scott Crossfield, Aviator and X-15 Test Pilot Inspiring the Next Generation of Aviators.

Ethel Finley WW II Women's Air Service Pilot

Dr. Kevin Kochersberger Testing the Wright Gliders with Modern Technology



Col Charles McGee Famous Tuskegee Airman

Homeschoolers Learn About Building Airplanes

James S. Voss Engineer and Astronaut

Father and Son Working Together in a Session

Aerospace Education Foundation

The **Aerospace Education Foundation**, established in 1956, is an affiliate of the Air Force Association and dedicated to ensuring America's aerospace excellence through public awareness programs, education and financial assistance. AEF works through a network of thousands of Air Force Association members and 250 AFA chapters to distribute educational material to schools and concerned citizens. Additionally, AEF:

- Supports the education of America's youth in math and the sciences.
- Assists the Air Force in meeting its educational requirements.
- Keeps the American public informed about aerospace issues.
- Advocates the importance of aerospace technology to the economic health, security and survival of our nation.
- Increases the quality and quantity of America's aerospace work force.

For additional information, AEF's website is **http://www.aef.org**

AEF has special scholarships for first-time CAP teacher AE memberships as well as **$250 educator grants** for CAP teacher members that are designed to promote aerospace education activities in classrooms from kindergarten to twelfth grades. The program encourages development of innovative aerospace activities within the prescribed curriculum. The program also encourages establishing an active relationship between the school and the local Air Force Association organization. To find out more about these grants, go to **http://level2.cap.gov/index.cfm?nodeID=5505** or to the AEF website at **http://www.aef.org/aid/educator.asp.**

Our Aerospace Education Members receive FREE national standards-based educational products to help them inspire their students to excel and Make Aerospace Real for Students.

Aerospace Education is an exciting theme that educators and homeschoolers can use to help them capture the imaginations of their students and to achieve academic excellence in the classroom.

Civil Air Patrol's educational products meet national standards. Our materials are multi-disciplinary and no special aerospace expertise is required to use them.

- Who made airplanes fly is HISTORY.
- How rockets fly is MATH and SCIENCE.
- Who controls the space station is GOVERNMENT.
- What the space program costs is ECONOMICS.
- Where airplanes fly is GEOGRAPHY and SOCIAL STUDIES.

Fill out the form on page 13 to get your FREE materials.

CAP Aerospace Education
Making Aerospace Real for Students