

Aerospace Education Unit Award Program



Civil Air Patrol Aerospace Education Excellence Award Program



Unit Application Booklet
www.cap.gov/ae

The AEX Unit Award Program

It is Aerospace Education night at your unit's regular meeting, and you are not sure how to spend the time. Have you considered the Aerospace Education Excellence (AEX) Award program? AEX is an educational and fun aerospace hands-on activity program. Your cadets and adult members can build model airplanes or launch rockets or do lots of other exciting activities. Complete the application form on page 3 and HQ CAP/ AE will send you the AEX books free.



If your unit completes six activities and conducts a two-hour AE Day you are eligible for the AEX award. The award consists of a beautiful wooden plaque for the unit and individual certificates for

Even if for some reason your unit doesn't complete the six activities, you still have the AEX books to use whenever you like to supplement your AE lessons.

Be sure to indicate on the application form the year for which you are applying (for example, 2007-2008). This is a great way to involve cadets and have them look forward to the next meeting. If you have activities you would like to share with other units in future AEX books, please email an electronic lesson plan to aex@cap.gov. Get your unit members excited about Aerospace Education and give them an opportunity to explore aviation and space.



every cadet who participated in the activities. Order the AEX books any time after October 1, but the activities must be completed by September 30 of the following year to receive the award for that year. This award is not a one time experience. Units can participate year after year and continue to receive the award. Use the form on page 5 to report your activities.



**National Headquarters, Civil Air Patrol
Aerospace Education Division/AE
105 South Hansell St., Building 714
Maxwell AFB, AL 36112-6332**

FAX: 334-953-6891

E-mail: aex@cap.gov • <http://www.cap.gov/ae>

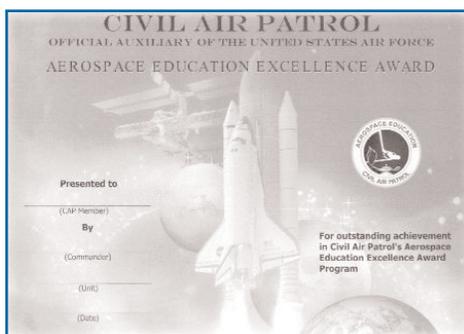
The AEX Unit Award Application

Application Form

Send this form to NHQ CAP/ AE to participate in this year's AEX Award Program. Remove this page from the booklet, fill out, fold and mail. The address is preprinted on the back.

Completion Certificate

Cadet and senior members who complete the program will receive a very nice color certificate to recognize their efforts. Please indicate the number needed when you send in your one page reporting form.



The Application

AEX Award Year: _____

Charter Number _____

Wing _____

Email _____

Unit Name_ _____

Address _____

City _____

State _____ Zip Code _____

Unit AEO (Please Print) _____

Signature of Unit AEO _____

Date _____

Check the books you would like to receive one copy of:

- ___ AEX II Volume 1
- ___ AEX II Volume 2
- ___ AEX for Senior Members

NOTE: Activity books will be mailed after the agreement form is received at National Headquarters.

Did your unit sign up for the Aerospace Education Excellence Award program last year?

Yes No

Did you complete the program?

Yes No



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Aerospace Education Excellence Award Program



NATIONAL HEADQUARTERS, CIVIL AIR PATROL
Aerospace Education Division
105 South Hansell St., Building 714
Maxwell AFB, AL 36112-6332

The AEX Award Report (please print)

Charter Number _____

Wing _____

Unit Name _____

Unit AEO _____

Address _____

City _____

State _____ Zip Code _____

E-Mail _____

Activity 4

Title of Activity _____

Number of Participants _____

Date of Activity _____

Activity 5

Title of Activity _____

Number of Participants _____

Date of Activity _____

Activity 1

Title of Activity _____

Number of Participants _____

Date of Activity _____

Activity 6

Title of Activity _____

Number of Participants _____

Date of Activity _____

Activity 2

Title of Activity _____

Number of Participants _____

Date of Activity _____

Two-Hour Aerospace Education Day

Date of Activity _____

Location _____

Number of Participants _____

Short description of activity: _____

Activity 3

Title of Activity _____

Number of Participants _____

Date of Activity _____

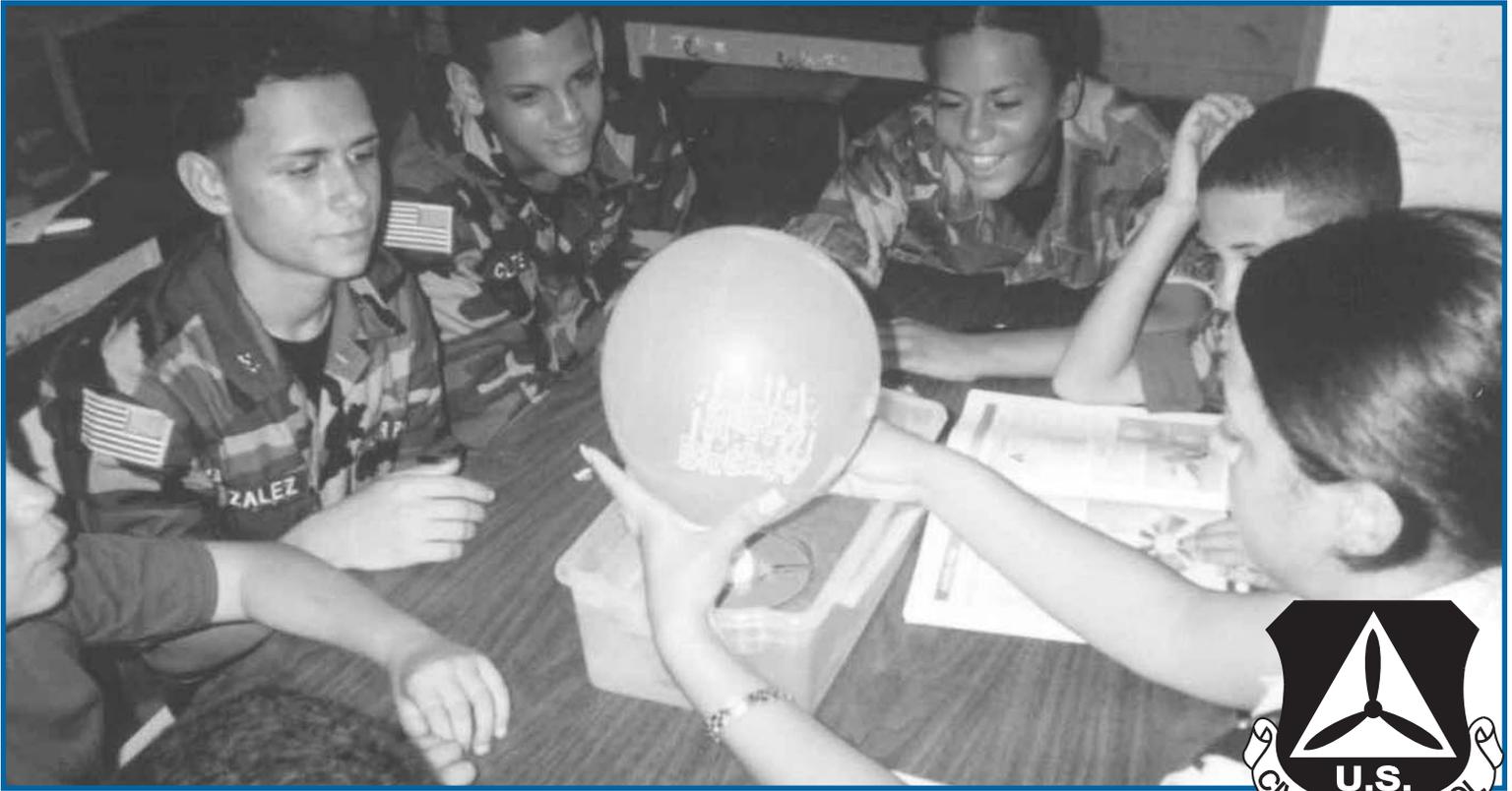
Please send me _____ AEX completion certificates for cadets

Send this report to:

National Headquarters, Civil Air Patrol
Aerospace Education Division
105 S. Hansell St., Building 714
Maxwell AFB, AL 36112-6332
or you may...

FAX to: (334) 953-6891 or

E-mail to: aex@cap.gov



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Aerospace Education Division
105 South Hansell St., Building 714
Maxwell AFB, AL 36112-6332

AEX Activity Three from AEX II Vol II

Building the International Space Station

Objective

To introduce students to the International Space Station (ISS) as a topic of study. The secondary objective is to build a model of the ISS that will hang in a classroom or meeting site in the form of a mobile.

National Science Standards (NRC)

Content Standard F: Science in Personal and Social Perspectives

- Science and technology in local, national and global challenges

Content Standard G: History and Nature of Science

- Science as a human endeavor

Unifying Concepts and Processes

For Complete Background Information, go to page 19 in AEX II Vol II

Materials

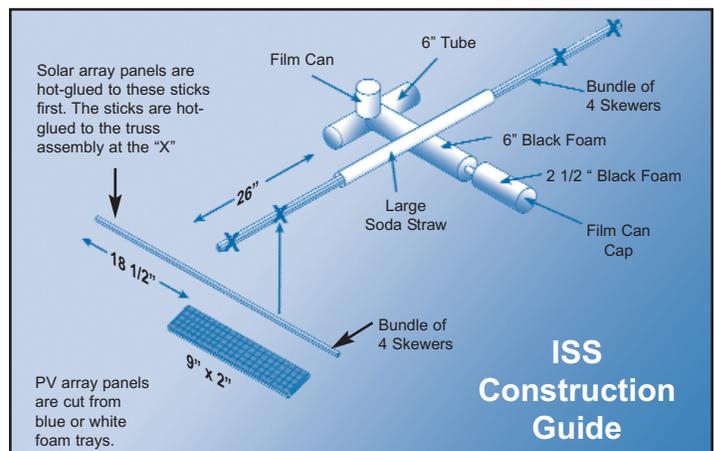
It is recommended that the instructor get all of the supplies together ahead of time. These include:

- At least a dozen long bamboo skewer sticks. These can be purchased at the grocery store.
- One or two large soda straws.
- Six to eight foam meat trays, preferably the ones that have one side "waffled." Usually, meat markets have these available. If you shop around, waffled trays can be found in blue, which makes the photovoltaic (PV) array panels more realistic!
- Pipe foam insulation (which comes in 3 and 5 foot lengths), like the kind used in the Goddard Rocket activity, will be needed to make the modules. Toilet paper or kitchen paper towel cylinders can also be used to make the modules.
- Cap tubular modules with six black or gray 35mm film canister caps.
- A roll of high-strength packaging tape to hold the skewers together.
- Nylon fish line to hang the finished ISS from a ceiling in a classroom or CAP squadron meeting room.
- Hot glue guns to bond tubes and end caps.
- Epoxy glue to bond areas that tend to break easily.

Procedure

The instructor is urged to follow this sequence of construction:

- The bamboo skewer sticks are "stacked" together for the integrated truss assembly component shown in the illustration below.
- These skewer sticks (four to six) are taped together in the center to hold them in a bundle. This is done by wrapping them with a long, single piece of packaging tape.
- If your bundle isn't too bulky, you should be able to push a large soda straw over the bundle covering the tape. Check the illustration and you will see how it is supposed to look at this stage.
- Using a hot glue gun, bond four skewer sticks at the positions shown on the illustration. These will be the frames for attaching the PV array panels.
- Cut out at least eight PV array panels from your supply of foam meat trays. These are 9 inches long and about 2 inches wide.
- The PV array panels are bonded to the bamboo skewer sticks as shown in the illustration.
- Lengths of pipe foam tubing are used to make the main modules. Use the illustration as a guide.
- Film canister lids are used to "cap" the open foam tube "modules."
- Using the ISS illustration on page 22 in the AEX II Volume II as a guide, students can make additional modules and arrays.
- Once complete, nylon fish line can be used to hang this replica in a classroom or squadron meeting room.



It is recommended that teachers and aerospace education officers (AEOs) build the station in stages, so students can study each module as an individual lesson. Cylinders made of cardstock or those found in paper products work quite well. Foam tubing is used, because it is very light and weight is a factor in how the ISS "mobile" will look when completed.



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