



CIVIL AIR PATROL
AEROSPACE EDUCATION



Civil Air Patrol's
Aerospace Education Program

Educators' Guide

TEACH

... ordinary subjects in extraordinary ways by becoming a special member of **Civil Air Patrol, the auxiliary of the U.S. Air Force** — an **aerospace education member**. With help from educator members, CAP is helping to prepare the aerospace/STEM workforce of the future.



ENGAGE

... youth in **captivating lessons and activities** using a variety of more than 40 national standards-aligned educational materials. CAP's free resources are available both online and in print to adapt to multiple teaching and learning styles. Additional **online references** provide an abundance of extra STEM resources.



EXPERIENCE

... hands-on learning with FREE programs, including:

- **(K-12) STEM Kits** in the areas of aviation, space, and cyber
- **(K-12) Aerospace Education Excellence (AEX)**, a six-lesson award program
- **(K-6) Aerospace Connections in Education (ACE)**, a grade-specific program to enrich academics, physical fitness, and character education
- **(5-8) ACE Plus**, where CAP squadrons support teachers' classrooms





STEM KITS

Civil Air Patrol's Aerospace Education STEM Kit program provides STEM resources for hands-on, inquiry-based learning. STEM Kits are available to aerospace education members **FREE OF CHARGE** for instructional use. The introductory kits are designed to enhance educational curriculum and programs.

CAP AE offers a variety of STEM Kits. *STEM kits may change according to demand and availability during the year.*



Bee-Bot | Ages 4+



Space Rover | Ages 4+



Rocketry | Ages 10+

QUICK POINTS

about our STEM Kits...

- To receive STEM Kits, educator members will need to apply online through [CAPs member portal](#), [eServices](#), by using their [CAPID#](#) and [password](#).
- Administer the pre-test to participants, use the kit for at least six hours, administer the post-test to participants, and complete and submit the online evaluation report.
- All documents and links necessary to complete each STEM Kit can be found in the [Learning Management System \(LMS\)](#) on [eServices](#).



Sphero BOLT | Ages 8+



Flight Simulator | Ages 12+



Scan to find out more about the available STEM Kits.
For more information, contact: stem@capnhq.gov

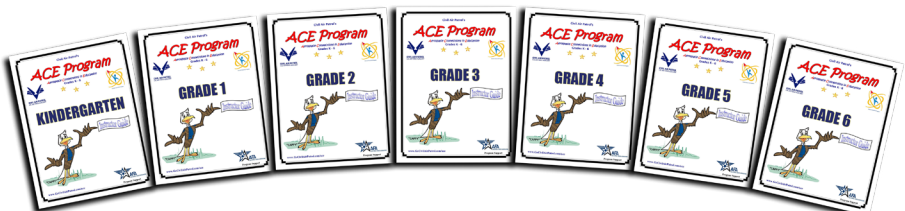


ACE K-6 STEM program

The free **Aerospace Connections in Education (ACE)** program is a fun, interactive aerospace/STEM program for CAP educator members who teach grades K-6. ACE is designed to engage and inspire early-aged youth toward an interest in aviation, space, and other STEM-related careers.

Quick Points

1. The free online curriculum guides are grade-level specific with 22 lessons per guide and are aligned with NGSS and other national academic standards.
2. Each ACE teacher receives free educational manipulatives and End-of-Program certificates for all participants.
3. National ACE award recipients are provided grants funded by ACE program supporter, the Air & Space Forces Association.
4. Ask about adding grades 7 & 8 in a K-8 school or a 6-8 middle school.



Aerospace

The ACE program introduces young learners to aerial and spaceflight and the related reading, art, history, geography, and STEM concepts involved. Students are each given a grade-appropriate educational tool to learn about and apply the principles of aerodynamics via easy-to-teach lessons, sometimes taught by CAP volunteers.

Connections

Using the aerospace theme, the ACE program integrates three important educational components: academics, character education, and physical fitness. In this cross-curricular program, students can connect content skills with real-life applications and positive adult and teen CAP role models.

in Education

Since 2007, ACE has reached students in every state and has seen stellar student-centered results. Teachers report a 27% increase in science test scores and say ACE supports required skills/standards/concepts.

Register **YOUR** students for **ACE** beginning **Aug. 1** each year.



Questions?

Contact ace@capnhq.gov

www.GoCivilAirPatrol.com/ace



Scan to learn more about the ACE program.

Aerospace Education Excellence (AEX) for Teachers

Civil Air Patrol offers a popular program, free to its members, that brings hands-on aviation and space-related activities to students in grades 7-12 — encouraging the next generation of air and space pioneers. Aerospace Education Excellence, or AEX, will help students discover past milestones in the aerospace industry through engaging activities. Teachers can use CAP's curriculum activities, which range from simple lessons such as model airplane construction to more elaborate lessons such as building and riding a low-flying hovercraft and constructing a wind tunnel. CAP's guides (available in downloadable form) provide the step-by-step instructions and background information needed, and all lessons are aligned with national standards. Educators may also use their own lessons.

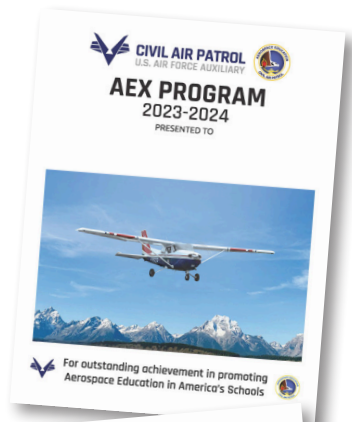
NOTE: AEX is a companion program to CAP's ACE program; therefore, K-6 teachers are encouraged to participate in ACE rather than AEX.

AEX Requirements:

Complete six aerospace activities and one two-hour-or-longer field experience (space day; trip to an airport or museum, etc.) to earn a classroom certificate plus individual certificates for the students. These make great presentation materials for school awards days.



Scan to learn more about AEX.



Aerospace and STEM Education Products

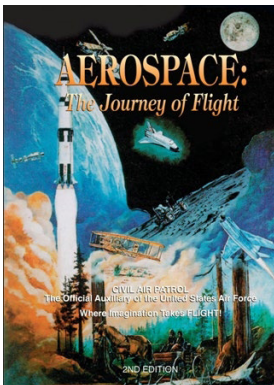
With a CAP membership, instructors have access to over 40 educational curriculum products in print and online in eServices. (www.capnhq.gov at **AE Downloads and Resources**)

Other aerospace/STEM online lessons, videos, resources, and programs are found at www.GoCivilAirPatrol.com/ae — **Check the Educators Section**

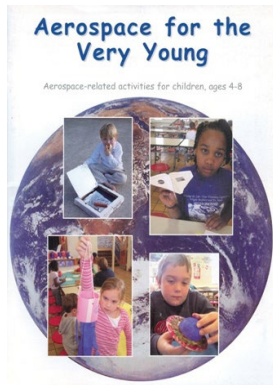


Aerospace Dimensions

(Seven Modules and Teachers Guide) Grades 6-9



Aerospace: The Journey of Flight
(Textbook and Guide)
Grades 9-College



Aerospace for the Very Young
Grades K-3



Scan to see more educational products.



ACE PLUS

ACE Plus — A Squadron Classroom Adoption Program

Civil Air Patrol squadrons are joining with upper grade ACE classrooms to provide ACE Plus aerospace/STEM support, student mentorship, and an introduction to the CAP cadet program. (The targeted grade level is 6th grade, but also accepted are 5th-, 7th-, or 8th-grade classes involved in the ACE program.)

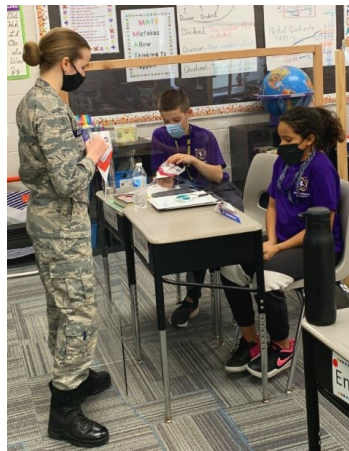
This program is open for “adoption connections” from Sept. 1 until the ACE program registration closes March 31 each year.

(The [ACE program](#) is the foundational program of CAP’s ACE Plus program.)

All teacher requests to be adopted by a CAP squadron should be coordinated through each state’s director of aerospace education. Contact information can be found on the ACE Plus webpage.



Scan to find the teacher’s guide and more information about the ACE Plus Program.



CAP Squadrons Can Assist Teachers

There are several ways local squadrons can assist teachers in the classroom:

- Teach one or more ACE lessons to students.
- Bring in cadets to assist in teaching the lesson(s).
- Cadets can introduce the Cadet Program to 5th- and 6th-grade classes.
- Help coordinate a field trip to the closest airport or aviation museum.
- Help coordinate a Teacher Orientation Program (TOP) flight for teachers.
- Assist in presenting end-of-year ACE certificates to the students.



Contact adopt@capnhq.gov



Scan to learn more
about the ACE Plus
program.



FLY

...on a **FREE Teacher Orientation Program (TOP) flight** in Civil Air Patrol aircraft at your local airport. Livestream, record video, or take photographs to bring your flying adventure back to your classroom.



Scan to learn more about the TOP Flight program



JOIN

...**TODAY** as an aerospace education member. CAP offers this special membership for K-12 formal and informal U.S. citizen educators in classrooms, home schools, museums, libraries, or other youth organizations. A **one-time \$35 membership fee** brings **FREE educator products and programs**. Read more at GoCivilAirPatrol.com/ae.



JOIN ONLINE:

GoCivilAirPatrol.com/joinaem



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