



## CIVIL AIR PATROL'S K-6 ACE Program: *Aerospace Connections in Education*



U.S. AIR FORCE

*Civil Air Patrol, the US Air Force Auxiliary, and, a Congressionally-chartered non-profit, humanitarian organization, has, as its mission: "To serve America by performing Homeland Security and humanitarian missions for our communities, states, and nation; developing our country's youth; and educating our citizens on the importance of air and space power."*

### **ACE PROGRAM PURPOSE:**

In an effort to address America's need to promote character development and career options at an early age, in 2007 CAP developed an aerospace-themed program that excites and engages young people in preparation for future science, technology, engineering and math (STEM) careers. The K-6 Aerospace Connections in Education (ACE) program was designed to help develop ethical, patriotic, healthy and technologically-prepared future citizens, which is of prime importance in maintaining global competitiveness and national security. As of May 2015, almost 100,000 students have participated in the ACE program. Over 13,000 students and 700 educators in 28 states were involved in 2014-2015.

### **ACE PROGRAM OVERVIEW:**

The ACE program was designed to integrate the aerospace theme in a cross-curricular manner in classrooms across America and includes three basic elements: Academics (with a STEM focus); Character Education; and Physical Fitness---and fills three important needs for the schools of our nation:

- *Academics to meet future workforce demands, especially in the aerospace/STEM industry*
- *Character education to combat negative societal forces and prepare productive/ethical/responsible citizens*
- *Physical fitness training to create citizens living a healthy and drug-free lifestyle*



- The program involves grade-level specific curricula for grades K-6 which were designed by educators and incorporate engaging, inquiry-based activities in 144 lesson plans that meet national academic standards and address national STEM initiatives. (21 lessons per grade level)
- The lessons are designed to include classroom volunteer instructors and mentors.
- The no-cost program supplements and enriches schools' standard core curricula.
- The program is designed for either in-school or after-school implementation.
- Each teacher receives a grade-level specific curriculum, a class set of lesson resources, program completion student certificates, and an end-of-year classroom plaque.
- ACE t-shirts provide a sense of team spirit and program pride.
- Annual national ACE awards recognize outstanding students, teachers, and schools.



- 91% of ACE teachers indicate continued program participation each year.
- A 26% increase in science thinking skills on standardized tests have been achieved in schools.
- A 46% average increase in program knowledge has been identified via the pre/post test results.



## ACE PROGRAM ENHANCEMENT:

ACE instructors are K-6 public, private, parochial, charter, and home school teachers who are CAP educator members, called Aerospace Education Members (AEMs). Benefits of becoming an AEM include the free curriculum for the K-6 ACE program, as well as the following additional free benefits for all K-12 teachers that serve to enhance the core curriculum and the ACE program:

- Over 25 additional national academic standards-based aerospace/STEM educational resources for classroom use, to include the 675-page textbook, *Aerospace: The Journey of Flight*
- Opportunity to apply for \$250 classroom grants
- Opportunity for free teacher orientation airplane flights
- Opportunity for free STEM Kits in astronomy, flight simulators, model & remote controlled airplanes, robotics, & rocketry



## ADDITIONAL SUPPORT OF THE ACE PROGRAM:

ACE teachers are encouraged to invite other school staff members, parents, and community volunteers to volunteer to teach individual lessons to the students to bring a variety of positive role models into the classroom from which students learn important life skills. Especially important community volunteers are adult members of CAP and their cadets, as well as AFA chapter members who share information about their careers with students. CAP and AFA members are also wonderful end-of-year award presenters!



- ⇒ Organizational representatives can volunteer to teach one or more ACE lessons during the school year to enhance the service option of the partnership with a school. Students love to have volunteers from the community take part in their educational program. It serves to reinforce adults' message to young people that "we care about you and your future."
- ⇒ Organizational representatives can present end-of-year ACE student certificates and teacher plaques at special school events.



## 2015 ACE PROGRAM AWARDS:

The Aerospace Education team at the national headquarters of Civil Air Patrol in Montgomery, AL, receive all ACE program award nominations submitted by the end of April each year. The team selects the national winners based on program participation, efficacy, and impact. The 2015 awardees represent schools from across the country:

**National ACE School of the Year:** *Fairview Elementary School*, Maryville, TN- Greg England, Principal

**National ACE Educator of the Year:** *Suzanne Costner*, Fairview Elementary School, Maryville, TN

**National ACE Coordinator of the Year:** *Tracy Jenner*, Yankeetown School, Yankeetown, FL

**National ACE Sustained Excellence Award:** *Brandi DeSandro*, Pike County Indian Schools, AL

Ms Costner, Ms Jenner, and Ms DeSandro were all taken on a STEM Career Exploration Trip to Seattle, WA, on a C-130, courtesy of the 908<sup>th</sup> Airlift Squadron from Maxwell Air Force Base, AL. The educators went with 45 other educators to McChord Air Force Base, with a tour of the Western Defense Sector facility as well as other sites on the base. The group received a VIP tour of the Boeing Everett facility, the Museum of Flight, Raisbeck Aviation High School, and several unique historical aviation museums, as well as tours of Amazon, Starbucks, and Microsoft. The educators were also given floatplane flights and invited to the Olympic Air Show. The experience was intended to introduce the educators to exciting STEM careers to share with their students.

Presenting Sponsor:



Supporting Sponsors:



# National ACE Teacher and School of the Year: Fairview Elementary with Suzanne Costner, ACE Teacher

## Fairview Elementary Educator and School Receive National Recognition

Suzanne Costner is the high-flying librarian at Fairview Elementary School in Maryville, TN, who sends her students soaring beyond books toward science, technology, engineering, and math (STEM) subjects. She has spearheaded the school's participation in Civil Air Patrol's aerospace education programs this school year. She has taught the CAP K-6 Aerospace Connections in Education (ACE) program to all the students at the school alongside the classroom teachers for whom Ms Costner provides classroom enhancement programs. Ms Costner has facilitated lessons and demonstrations that have led to an increased interest in the areas of STEM + the arts (STEAM).

Ms Costner has planned an all-day **STEAM Day** as a culminating event for the entire school on **Tuesday, May 19<sup>th</sup>**. During STEAM Day, each grade level will be participating in CAP ACE lessons that focus on STEM learning, character education, and physical fitness. The fourth graders will be demonstrating their robotics program with STEM Kits provided by the Civil Air Patrol. In the 11:00 a.m. timeframe, the fifth graders will provide a school-wide outdoors rocket launch, weather permitting. During this time, a Civil Air Patrol National Headquarters Aerospace Education team from Montgomery, AL, will be making a special presentation to Ms Costner and the school.

Ms Costner is being named the **2015 National CAP ACE Educator of the Year**. In addition, Fairview Elementary will be recognized as the **2015 National CAP ACE School of the Year**. The school principal, Greg England, will be accepting the school award wherein the school will receive a school plaque and a grant for more school STEM materials. Ms Costner will receive a STEM career exploration educator trip aboard a C-130 military airplane to tour McChord Air Force Base, Boeing, and the Museum of Flight aerospace areas in Seattle, WA, June 24-29, courtesy of CAP and the Air Force Association.