# Aerospace Education News

Winter 2011

Inspiring Students To Excel


**Wishing you the best for a safe and prosperous 2011!**

**---CAP NHQ AE**

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*Aerospace Education News*

*Aerospace Education News* is the official aerospace education quarterly publication of the Civil Air Patrol at CAP National Headquarters, Maxwell Air Force Base, Ala.

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If you have news, events, or ideas we might consider for the newsletter, please submit them electronically to jstone@capnhq.gov.


# Women Take Flight!

This past year, 2010, marked the Centennial of Licensed Women Pilots. The first licensed woman pilot was Baroness Raymonde de la Roche in 1910. However, the first U.S. woman to obtain a pilot's license was Harriet Quimby in 1911. These pioneering women paved the way for women to "take to the skies." Another first was when Bessie Coleman, who had to leave the U.S. to obtain her pilot's license due to prejudice, received her pilot's license in 1921 to become the first African American (man or woman) to be a licensed pilot. "Queen Bess," as she was called, had a dream of starting her own school for black women who wanted to become pilots so they wouldn't have to "experience the difficulties I (Bessie Coleman) had faced." Unfortunately, Bessie Coleman died while trying to realize her dream. She suffered a fatal accident while preparing for an air show.

Many other women have blazed trails in aviation and have contributed greatly to the history of aviation. One CAP connection to famous firsts was Willa Brown. Willa Brown was the first African American to earn a pilot license and a commercial license. She was also the first African American woman to become an officer in the Illinois Civil Air Patrol.

Willa Brown

Women have continued becoming more and more accepted and integrated into the aviation world. Even the Space Shuttle Program has had a first. Eileen Collins became the first woman to pilot a space shuttle in 1995. In 1999, she became the first woman commander of a space shuttle.

Eileen Collins, pilot

Many organizations and programs encourage young girls to get interested in science and flying as possible career choices. Such organizations as Women In Aviation and programs such as Sally Ride Science, are inspiring girls to "soar" in aviation and STEM pursuits. The next generation of space and aviation professionals will be even more diverse and exceptional due to these opportunities. "Let's roll!"

**Questions:**

**1. Who was the first African American woman to receive the rank of officer in CAP?**

**2. What event in women's aviation occurred in 1995?**

**3. Why was 2010 celebrated as a special time for women in aviation?**

**4. Name a professional group or program that promotes aviation and science to young girls.**

**(Answers on page 5)**

# Aerospace Education Member (AEM) Spotlight ...

## Mary Beth Marx, Wisconsin

As a child, Mary Beth Marx spent many hours at the end of a runway at a local airport watching the airplanes take off and land. She perpetuated that fascination in high school, where she would take any course that was aviation-related. Her high school mentor was Lt Col Mike McArdle (current CAP National Commander's Advisor for Aerospace Education), who was Mary Beth's teacher at that time. Lt Col McArdle's lessons and leadership had a great impact on Mary Beth, and still does today. Mary Beth provides the same lessons and leadership to her 7th and 8th grade students at Westby Middle School in Westby, Wisconsin.

While attending a CAP teacher workshop in 2007, Mary Beth learned about the benefits of becoming a CAP AEM. She garnered free educational resources and information related to flight and took her first flight in a CAP airplane. This experience and newfound knowledge was enthusiastically shared with her students.

One of the many benefits of being a teacher member of CAP is the opportunity to apply for Air Force Association grants. Through the years, Mary Beth has applied for and received 2 such grants. The grant money enabled her to teach about directional movement of aircraft, airfoil design, instrumentation, control surfaces, pioneers of aviation, and the physics and advancement of flight.

> ***"A teacher with an interest in aviation is destined to find his or her way to the opportunities available with the Civil Air Patrol."***
>
> ***.....Mary Beth Marx***
> ***Westby Middle School***

Mary Beth integrates unique strategies to provide real-world applications to science concepts. Students have become immersed in understanding aeronautical charts, as well as building and modifying aircraft to achieve controlled flight. When the end result of science instruction is flying an airplane, doors of opportunity are opened for all of Mary Beth's students!

This past school year, as Mary Beth worked with students to earn the CAP AEX (Aerospace Education Excellence) Award, she selected activities that revolved around the space program. As the lessons for this award were completed, Mary Beth asked her students to reflect on the most important things they learned from their investigation of space and space missions, past and present. One student said that without the developments made in our space program we would not have the level of math and science classes available in today's schools.

Mary Beth says that without the ongoing support of CAP, to include new materials and opportunities for continuing education, such exciting and relevant learning opportunities would not be taking place in communities everywhere. Her desire is to continue her endeavors to inspire the leaders of tomorrow through programs provided by organizations like CAP. She still looks up, wonders, and dreams - and that is what she wishes to project to her students.

Congratulations, Mary Beth! CAP is proud to be able to supply you with programs and products that will help you with your endeavors. *Pay it forward!*

**Top: Mary Beth's students' space projects**
**Bottom: Mary Beth flying!**

# Aerospace Education Officer (AEO) Spotlight.....

## Maj Pam Becker, FL-424

**Maj Pam Becker gives a CAP presentation to ACE students at Holley-Navarre Intermediate School in Navarre, Florida**

Being the second of six children of USAF parents stationed in England (at the time of her birth), Maj Pam Becker has always been around flying. Even her elementary and secondary school years were spent near Air Force bases. She has always had a desire to know how things work and this led to a degree in electrical engineering. Maj Becker went to undergraduate school at Penn State University and later completed her master's degree at Lehigh University.

Maj Becker spent the early days of her career (while attending school in the evenings) working for Western Electric Company. Her first jobs included designing and implementing equipment used to handle and test integrated circuit "chips" (ICs). ICs are used in all electronic devices today. She worked on plasma panels (the precursors to today's flat screen TV.) Maj Becker's final engineering job was as manager of a group of engineers responsible for the development and manufacturing of laser repeater components for use in undersea communications cables. With all of these wonderful experiences and accomplishments, she decided to retire at an early age to spend time with her retired husband.

Having some time on her hands, Maj Becker then decided to take up flying as a hobby. She started taking flying lessons in Reading, Pennsylvania in 2002. After earning her instrument rating in 2003, she and her husband decided to relocate to Florida (where they live today.)

After moving to Florida, Maj Becker decided to join CAP as a way to give back to the community. While serving and flying for CAP, she furthered her flying skills and became a Certified Flight Instructor with Instruments (CFII).

Maj Becker is currently teaching ground school to flight students at the Eglin AFB Aero Club. She is also a mission pilot, instructor pilot, and check pilot for CAP. Maj Becker is constantly reminded of her beginnings as a "child of the Air Force" and what an impact it had on her life. She is trying to make an impact on other lives as she instructs and flies young people and educators. Maj Becker is making a difference in the lives of those with whom she comes in contact. She has used her flying skills and knowledge of aviation to inspire others and we wish her the best as she continues sharing her unique gift with CAP.

**Whether with students (top) or cadets (bottom), Maj Becker enjoys sharing her love of flying with young people.**

*"Some of the most rewarding flying is orientation rides when cadets or teachers come back with smiles and wanting more knowledge."*

*....Maj Pam Becker, FL 424*

Civil Air Patrol's Elementary ACE Program

# K-6 Aerospace Connections in Education (ACE) Program - Reaching New Heights!

With about 11,000 students and over 400 educators at more than 100 schools across 30 states, participation in the CAP's K-6 ACE Program has grown almost 70% from last year. The Civil Air Patrol was extremely honored in mid-October to receive a donation to support the ACE Program from FLIR Systems, Inc., the global leader in infrared cameras, night vision, and thermal imaging systems. This contribution resulted from collaboration between CAP and Jonathan Warren, FLIR's Director of Air Force Programs. This donation is enabling CAP to fully support over 1,000 additional participants in the ACE program. Those participants' ACE t-shirts note both FLIR Systems, Inc. and the Air Force Association as program sponsors. "We, at FLIR, recognize the need for strong educational programs that will prepare the youth of our country for the increasing need to maintain national security," said Warren. "When we support youth programs that aim toward technological careers, we are helping to ensure America's workforce is armed with the knowledge and the patriotism needed to provide air, land, sea, and cyber defense for our nation."

**Pictured above for FLIR check presentation are (from left): Jim Mallett, CAP Director of Educational Programs; Jarred Nutter, FLIR Systems; Susan Mallett, CAP Youth Development Program Coordinator; Don Rowland, CAP Executive Director; and Jonathan Warren, FLIR's Director of Air Force Programs**

Most teachers and students in the CAP's K-6 Aerospace Connections in Education (ACE) Program have had a program "lift off" event this year. Anthem School in Anthem, AZ challenged both the students and the teachers to use their knowledge of flight and the scientific method to construct a paper airplane in hopes of winning a paper airplane contest. Ultimately, several students' paper airplanes outperformed the winning teacher's plane due to the students' creativity and "thinking outside the box." Anthem students cheered with exuberant excitement as they also watched a helicopter from a local news station land on the school grounds.

**Good sportsmanship in Anthem paper airplane contest**

**ACE Lift-off at Anthem School**

To see video footage from Anthem's lift-off events, visit the "ACE in the News" section at www.capmembers.com/aceteachers. On the other side of the continental U.S., CAP senior member Pam Becker worked with other CAP members to make a CAP and overall aerospace presentation to ACE students at Holley-Navarre Intermediate School in Navarre, FL. Actual pilot equipment was used for demonstration. Meanwhile, at another ACE lift-off event in Jacksonville, FL, seventh- and eighth-grade students launched hot air balloons to assist with the K-6 ACE liftoff at San Jose Catholic School. Having lift-off events, whether school-wide or in individual classrooms, has been a great way to spark students' excitement, interest, and understanding of the unique ACE program.

**ACE Lift-off at San Jose Catholic School**

If not familiar with the ACE Program, click "ACE" at **www.capmembers.com/ae** to learn more about this grade-specific, cross-curricular, aerospace-themed elementary program that promotes science, technology, engineering, and math (STEM) studies, as well as good character and physical fitness.

ACE teachers can stay up-to-date with announcements and tips for teaching ACE lessons by visiting **www.capmembers.com/aceteachers**. If you have additional teaching tips, stories, and/or pictures to share, please send them to Angie St. John at **astjohn@capnhq.gov.** Your advice or stories may help take other participants to new heights.

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# Aerospace Education Notes.....

## AEX Template Available on Website....

Has your unit or class signed up for the ***Aerospace Education Excellence (AEX) Award Program*** for 2010-2011? If you have, you will be pleased to learn that we have a wonderful new tool to assist you when the program has been completed. We now have an *AEX Certificate Template* that may be used to type the recipient's name and information directly on the certificate. Once you have received your certificates, go to **www.capmembers.com/ae** and click on AEX Award Program. Follow the directions in the *AEX Certificate Template* yellow box.

What is AEX? It is a fun hands-on activity program free to our members. Since the AEX application and program completion reports are online, many units and schools take advantage of this program. To sign up for this year, go to e-Services at **www.capnhq.gov**, enter your password and click on AEX. When you complete the program, simply go back into e-Services and fill out the completion form. A beautiful wooden plaque and individual certificates for each participant are mailed upon completion of the program. Remember: If you are signing up your unit you must be the AEO or Commander to see the AEX choice in e-Services.

If you would like additional information about the AEX program, please go to **www.capmembers.com/ae**. If you have further questions, contact Debbie Dahl at **ddahl@capnhq.gov**.

**Mustang Cadet Squadron's (RMR-CO-148) Aerospace Education Officer, Capt Russell Grell, proudly displays the squadron's 14th consecutive award for completing the AEX program. Congratulations to Mustang Cadet Squadron!**

## TOP Flights Continue to Inspire Educators

CAP Teacher Orientation Program (TOP) Flights have had tremendous success in many wings that have participated. Teachers who take the flights are excited, rejuvenated, and motivated about teaching (especially aerospace-related subjects). The pilots who fly the teachers are equally excited.

TOP Flights have touched many teachers and opened doors to knowledge and experiences that were unknown prior to stepping into a CAP aircraft. Such an experience occurred in Flagstaff, Arizona, when Kaci Heins, a fifth-grade teacher at the charter PEAK School was able to take advantage of a TOP Flight. Kaci said that being able to see certain geographical features of her community from the sky gave her a new perspective and she was "blown away" by the experience.

Kaci's class is also participating in the ACE program that CAP offers. She says that she has received a treasure trove of curriculum and learning tools. Now, the TOP Flight over Flagstaff has increased her interest and ability as a teacher as well as helped her motivate her students to soar to new heights.

***Note to all AEMs:*** If you are a current Aerospace Education Member or senior member who is a teacher and have not taken a Teacher Orientation Program Flight, please let Judy Stone (**jstone@capnhq.gov**) know of your interest and she will put you in touch with the person in your state who can make the flight happen. Teachers may take a TOP Flight once a year to continue building aviation knowledge to share in the classroom.

**Kaci Heins takes a TOP Flight over Flagstaff, AZ**

**Students in Kaci Heins's class at PEAK School participate in the ACE Program**

**Answers to front page story:**

**1. The first African American woman to receive the rank of officer in CAP was Willa Brown.**

**2. Eileen Collins became the first woman to pilot a space shuttle in 1995.**

**3. 2010 marked the centennial of Licensed Women Pilots.**

**4. Sally Ride Science is a program that promotes aviation and science to young girls.**

# CURRICULUM CORNER.....K-4

## EILEEN COLLINS...FIRST WOMAN TO PILOT A SPACE SHUTTLE

**Objective:** Students will learn about PPK (Personal Preference Kits) that astronauts, such as Eileen Collins, take onboard a shuttle flight. Students will then name 5 items they would take on a space flight and why each is important.

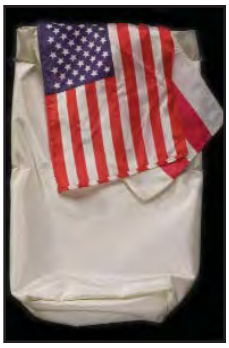
**National English Language Arts Standards:**
4. Communication Skills
12. Applying Language Skills

**Grade Level(s): K-4**

**Teacher Background Information on PPK (Personal Preference Kit):**

Each crewmember of a space shuttle mission is allowed to bring personal items on board with them. There is a Crew Options List from which each member gets to select items. Some items on the Crew Options List include watches, handkerchiefs, seat cushions, and safety helmets. These items are usually placed in their personal belongings locker on board the orbiter. Crewmembers have been known to bring along pennants or hats with their college name or logo on them, shirts, favorite books, audiotapes or compact discs of their favorite music, musical instruments, stickers, ties, or special items from a family member, friend, or deceased loved one.

Crewmembers each have a Personal Preference Kit (PPK) in which they can fly up to 20 personal items. These items have to be very small because the bag in which they are carried is only about 3" x 3" in size. Most of the time, a crewmember will fly family items, such as jewelry, photos, and other small mementoes.



For bigger items, each mission flies the Official Flight Kit (OFK). The list of items that are stored in this kit must be approved through official NASA channels. These are usually items that are flown on requests from foreign governments, schools, and other institutions, like museums and professional organizations. Some of these larger items flown in the Official Flight Kit have included flags of foreign countries, patches, or other special awards that would be presented later to honorees of an organization. Also, small museum pieces are flown and later displayed in that museum's exhibit. The items that are flown in the Official Flight Kit must go through a strict screening process before being approved for flight.

In some cases, crewmembers fly items of historical importance.The Smithsonian Institute requested that a piece of fabric from the original 1903 Wright Flyer be flown on a mission. Commander Eileen Collins brought with her on STS-63 the pilot's license from the Federation Aeronautique Internationale in France given to American female pilot Bobbi Trout. In 1995, aboard STS-84, Pilot Eileen Collins took a scarf worn by fellow aviation pioneer, Amelia Earhart.

**Eileen Collins with Amelia Earhart scarf and Bobbi Trout license**

Of course, the items that most crewmembers seem to bring with them on every mission are junk food and cameras. So, we see that Personal Preference Kits (PPKs) and Official Flight Kits (OFKs) have contained many personal and unique items that have been flown into space on every mission.

**Background Information on Eileen Collins:**

Eileen Collins was born in Elmira, New York, on November 19, 1956, to James and Rose Marie Collins. She grew up with two brothers and a sister. In high school she began reading about famous pilots, from Amelia Earhart to Women Air Force Service Pilots (WASP), who played an important role in World War I. Their stories inspired her.

Eileen Collins graduated from Elmira Free Academy in Elmira, New York in 1974. She got an Associate in Science degree in mathematics and science from Corning Community College in 1976. Eileen received her Bachelor of Arts degree in mathematics and economics in 1978 from Syracuse University. From college, she went directly into the Air Force.

First training as a pilot, then T-38 instructor pilot, and later as a T-41 instructor pilot for the U.S. Air Force Academy, Eileen Collins was selected by NASA in January 1990 to become an astronaut. She became the first female space shuttle pilot in 1995 for STS-63. Her three other missions on the space

# K-4 Curriculum Corner Continued...

shuttle included: STS-84 as pilot in 1997; STS-93 in 1999 where she became the first woman to command a space shuttle mission; and commander again on STS-114 (first space shuttle flight since the Columbia disaster in 2003) in 2005.

Eileen Collins retired from NASA in 2006 to spend time with her husband and two children.

**Materials for each student:**

- Shoebox or similar container
- 5 items personally important to each student
- worksheet
- pen

**Procedure:**

1. Discuss with students the PPK and how important it is for astronauts to "take a little memory of home" with them on their space journey. Also, discuss the life of Eileen Collins and ask students how they think they are like Eileen.
2. Students will pretend they are joining Commander Collins and the crew of flight STS-93 on their flight.

3. The students will be given a Personal Preference Kit (about the size of a shoebox).

4. The students will be allowed to place 5 personal items in the box. These items must be able to physically fit into the box.

5. Students will list the five items on their worksheets and tell why each is important to take with them. (Younger students may either want to cut out pictures of the items and place on the sheet or draw them.)

6. Students will place the items in their boxes and either attach a tag to each item explaining its importance or tape the list with each explanation to the lid of the box.

7. Students will decorate boxes appropriately.

8. Each student will be given the opportunity to share his/her box with the class and explain the significance of each item.

**Extension:**

Discuss the term "role model" and then ask students why Eileen Collins would be considered a "role model."

STS-114 Launch

**Student Sheet for Eileen Collins Lesson:**

**Name: _____**

**Pretend you are joining Commander Collins and the crew of STS-93 on their flight. You will be given a PPK (Personal Preference Kit) which will be the size of a shoebox. List 5 personal items you would take with you aboard the space shuttle. After each item, explain why it is important to take with you. Attach a label or tag to each item and decorate your PPK. Share your PPK with the class.**

**Item 1:**
**Explanation for importance:**

**Item 2:**
**Explanation for importance:**

**Item 3:**
**Explanation for importance:**

**Item 4:**
**Explanation for importance:**

**Item 5:**
**Explanation for importance:**

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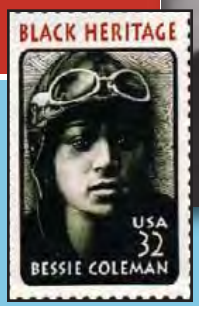
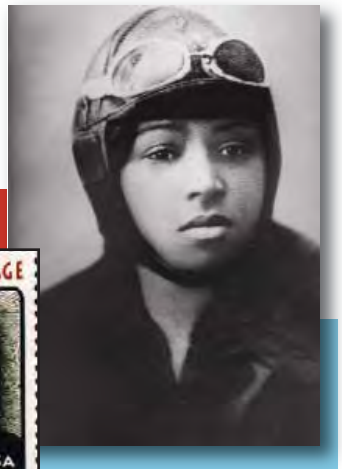
## CURRICULUM CORNER (Grades 5-12)....

# BESSIE COLEMAN: AVIATION PIONEER



**Objective:** Students will learn about Bessie Coleman and compare the specifications and cockpit of her Jenny airplane to the specifications and cockpit of the CAP Cessna 182.

**National Science Standards:**
Content Standard A: Science as Inquiry
- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

Content Standard E: Science and Technology
- Understandings about science and technology

Content Standard G: History and Nature of Science
- Science as a human endeavor

**National Social Studies Standards:**
2. Time, Continuity, and Change
4. Individual Development and Identity
8. Science, Technology, and Society

**Grade Level: 5-12**

**Background Information on Bessie Coleman:**

Bessie Coleman was born on January 26, 1892 in Atlanta, Texas to a large African American family (one of 13 children). Her father was Native American and her mother was African American. Because of the sentiments in the South at the time, Bessie's father decided to move the family to Oklahoma. Bessie's mother did not want to move, so Bessie and several of her sisters decided to stay in Texas.

Bessie Coleman was a highly-motivated individual. Despite working long hours picking cotton and doing laundry for customers with her mother, she still found time to educate herself by borrowing books from a traveling library. Bessie learned enough on her own to graduate from high school and go on to study at the Colored Agricultural and Normal University (now Langston University) in Langston, Oklahoma. Because of limited funds, she was only able to complete one semester of college.

In 1915, Bessie Coleman moved to Chicago. There, she attended beauty school and started reading about becoming a pilot. Her decision to become an aviator came from her brother John's incessant teasing. He had served overseas in World War I and came home talking about how superior the French women were compared to the women in his hometown of Chicago. He told Bessie that French women flew airplanes and told her that she could never do that. Of course, this was all Bessie needed to start pursuing her pilot's license.

Bessie began applying to flight schools, but none would take her since she was African American and a woman. This is when she met Robert Abbott, publisher of the well-known African American newspaper, the Chicago Defender. He told her she should save her money and move to France because he thought that France was a racially-progressive country. He felt that Bessie could obtain her pilot's license in France.

Bessie Coleman started saving her money and learning French. In November of 1920 Bessie took her savings and sailed for France.

Bessie Coleman returned to the United States in September 1921 with her pilot's license (received on June 15, 1921). She would return to France once more for additional training to help her become a barnstormer, or aerial daredevil. Her attempts to earn money to support her dream of starting a school for African Americans and women who wanted to fly would come to an end on April 30, 1926 when she tragically died in an airplane accident while preparing for a show in Jacksonville, Florida.

Bessie Coleman was affectionately know as "Queen Bess" and dazzled thousands with her aerial skills and daring. Today, many groups are dedicated to her dream and there is also a foundation that keeps her dream alive of making sure that everyone, regardless of color or gender, can realize their full potential.

Fédération Aéronautique Internationale
FRANCE
Mlle Bessie Coleman
Atlanta, Texas
Pilote-Aviateur
Signature du Titulaire
Bessie Coleman

**Top: Bessie Coleman with her airplane, the "Jenny"**
**Bottom: Bessie Coleman's pilot's license from France**

## Curriculum Corner (Grades 5-12) continued....

**Background Information on the Jenny (Curtiss Model JN4-D) and the CAP Cessna 182:**

**Jenny Specs:**

**Dimensions:**

| | |
|---|---|
| Wing Span, Upper | 43 ft 7 3/8 in. |
| Wing Span, Lower | 33 ft. 11 1/4 in. |
| Length | 27 ft. 4 in. |
| Height | 9 ft. 10 5/8 in. |

**Weights:**

| | |
|---|---|
| Net Weight, Empty | 1430 lbs. |
| Gross Weight, Loaded | 1920 lbs. |
| Useful Load | 490 lbs. |
| Fuel (21 U.S. gals.) | 130 lbs. |
| Oil (4 U.S. gals. in engine crankcase) | 30 lbs. |
| Pilot | 165 lbs. |
| Passenger | 165 lbs. |

**Performance:**

| | |
|---|---|
| Speed, maximum | 75 mph |
| Speed, minimum | 45 mph |
| Climb in 10 minutes | 2000 ft. |
| Ceiling | about 10,000 ft. |

**Powerplant:**

Model OX-5, Vee, Four-Stroke Cycle, 8-cylinder, water cooled

Horsepower (rated at 1400 R.P.M.) 4.33 lbs.

Fuel Consumption per hr. 9 gals.

**The Jenny that Bessie Coleman flew**

**Cessna 182 Specs:**

**Dimensions:**

| | |
|---|---|
| Wingspan | 36 ft. 0 in. |
| Height | 9 ft. 4 in. |
| Length | 29 ft 0 in. |

**Weights:**

| | |
|---|---|
| Empty Weight | 1970 lbs. |
| Loaded Weight | 3110 lbs. |
| Useful Load | 1140 lbs. |

| | |
|---|---|
| **Crew:** | 1 |
| **Passengers:** | 3 |

**Performance:**

| | |
|---|---|
| Speed, maximum | 173 mph |
| Stall speed | 56 mph |
| Rate of climb | 924 ft/min |
| Service ceiling | 18,100 ft. |

**Powerplant:**

1 x Lycoming IO-540-AB1A5 3-Bladed Constant Speed, 230 hp

Range 1070 miles

**CAP Cessna 182**

**Materials:**

- Paper
- Pen
- Internet and other reference sources for research

**Procedure:**

1. Discuss the background information concerning the life of Bessie Coleman.

2. Ask students to find a picture of the Jenny and one of the Cessna 182 for comparison.

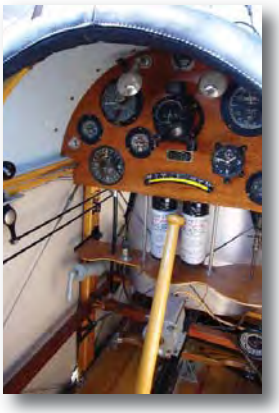
3. Tell students to make a chart of the comparison between Bessie Coleman's airplane, the Jenny, and a CAP airplane, the Cessna 182. Students may choose to make their comparisons on paper or using any computer software that lends itself to this kind of presentation.

4. Students should share their findings with the group and discuss any discrepancies in information. Students will also share pictures and discussion about the cockpits of each airplane and how they differ.

**Extension:**

1. Have students discuss how the characteristics of Bessie Coleman helped her to accomplish all that she did in her life. Ask the students why they think she is still remembered and honored today. Have students prepare a short speech to encourage other students to strive to reach their full potential as Bessie Coleman did.

2. Have students research safety requirements and pilot's license requirements for airplanes and individuals who wished to fly in the 1920s and compare them to the requirements of today.



**Top: Cockpit of Jenny**
**Bottom: Cockpit of Cessna 182**

# Air Force Association Partnership

Thank You

Air Force Association!

CAP's gratitude to the Air Force Association continues for the many years of financial support enabling the perpetuation of the AE Mission via CAP's youth development programs for units and teacher members. This quarter, appreciation is extended to the AFA for providing $250 AE grants to 20 deserving units selected in a competitive grant application process. The winners and their excellent AE projects are as follows:

• **Diablo Composite Squadron**, Concord, CA - Capt Timothy Albert - Month-long Rocketry Challenge with National Association of Rocketry Club

•**Wright Bros 282nd Aero Composite Sq**, Kettering, OH - 1Lt Todd Collins - X Plane Flight Simulator Program

•**Dutchess County Cadet Sq,** Wappingers, NY - Maj Donald Colson - Vantage Pro 2 Meterology Station Program

•**Milwaukee 10th Sr Support Sq**, Milwaukee, W I- Capt Barbara Decker - AE Models for Schools and Open House Demos

•**Emerald City Composite Sq,** Greenwood, SC - Capt John Dowling - Hands-on AE Program and Science Center Trip

•**AZ 226**, Taylor, AZ- Capt Susan Drenkhahn - Prima Air Museum Camp-Out and Tour for Career Exploration

•**Citrus City Composite Sq**, Beverly Hills, FL-2Lt Joseph Francis - Rural AE Enhancement Program

•**Salem Composite Sq**, Salem, OR - Maj Nick Ham - Robotics, Why? When? How? Project

•**169th Composite Squadron**, Ellington, CT - Capt John Kelling - Aviation Physiology Project

•**Titan Cadet Sq,** Indianapolis, IN - Maj Frank Merrill - Self-powered ½ scale Cessna 172 Air Show model built with IN WG

•**Fremont Starfire Cadet Sq,** Canon City, CO - Maj Bryce Nelson - Redstone Rocketry and Satellite Toolkit Ops Center

•**Lewis & Clark Composite Sq,** Helena, MT - SM Greg Painter - AE Extravaganza Video Development

•**Autauga/Elmore Cadet Sq,** Elmore, AL - 2Lt Billy Price - Huntsville Space Center Trip

•**Lubbock Composite Sq,** Lubbock, TX - Maj Leona Little Soldier - Women Airforce Service Pilots (WASP) Museum and Study

•**NV WG**, Sparks, NV - Capt Carey Sperling - Wing-wide AEX Award Completion Project

•**Tuscaloosa Composite Sq,** Tuscaloosa, AL - 1Lt Rodney Stephens Air Show Hovercraft Project

•**Davenport Composite Sq**, Marion, IA Capt Daniel Stone - Cadet Flight Training Equipment and Program

•**Squadron 68**, Newport Beach, CA - 2Lt Ippei Tanaka - Challenger Center Mission Trip

•**Fox Valley Composite Sq**, Bartlett, IL 1Lt Rebecca Tullock - Remote Control Aircraft and UAV Exploration

•**Francis Gabreski Squadron,** Patchogue, NY - 1Lt Dennis Woytowitz -Rocketry Challenge Program

Last quarter's CAP teacher member AFA grant recipients have completed their projects. Highlighted programs include:

• **Revonne Hammond's 5th grade urban students at Oakmont Elementary School, OH** toured and studied the National Museum of the USAF to connect classroom studies in history, math, and science and transfer knowledge to career options for the future. (See picture below.)

• **Matthew Maisano's Conestoga Valley High School, PA** Flight Course included vertical flight instruction and a trip to the American Helicopter Museum. Students learned about the various airfoils and how a rotor blade works, as well as career options available to them. (See picture below.)

• **Jean Pelezo's Morgantown Road Elementary, NC** enjoyed a "Family Star Gazing Night" in October and a "Man in the Moon Night" in November bringing the education program "out of the classroom; into the family!" (See picture below.)

Once again, CAP extends sincere gratitude to the AFA for dedicated support to the youth of America! To find out more about all the AFA/CAP partnership programs, go to the AFA Partnership link at **www.capmembers.com/ae**. If you are NOT a member of AFA, find out how YOU can join a community-based/community outreach AFA chapter!

One excellent AFA-sponsored program, CyberPatriot, has allowed CAP squadrons across the nation to participate in learning more about cyber security issues affecting our country. CAP has 4 out of 12 teams competing for the national championship in February. Our gratitude for AFA's visionary program!

# From The Deputy Director's Desk.....Dr. Jeff Montgomery

On January 8, 2011, CAP entered into a partnership with the Academy of Model Aeronautics (AMA). In a ceremony in California at the 15th Anniversary AMA Expo, CAP signed an agreement with AMA to mutually promote aviation and aerospace and collaborate on programs that nurture and support the growth of aviation and aerospace participation. As the picture indicates, Major General Amy Courter, CAP's National Commander, and Dave Mathewson, AMA President, signed the Memorandum of Understanding on January 8, 2011, that solidifies the relationship between CAP and AMA.

**Civil Air Patrol National Commander, Major General Amy Courter, and Academy of Model Aeronautics President, Dave Mathewson, sign the MOU.**

AMA, formed in 1936, is the world's largest model aircraft association with almost 150,000 members and 2,500 clubs. Several CAP squadrons are already working with their local AMA clubs, but now more squadrons will become aware of what AMA offers and can hopefully find a club near them. These clubs offer the opportunity to learn more about aviation and aerospace and to build and fly model aircraft.

AMA membership is free for all CAP cadets under the age of 19. AMA is also known for their great insurance coverage, and this same insurance is free to any CAP cadets under the age of 19 who join AMA. CAP senior members are also encouraged to join AMA, but there is a fee for adults. The fee ranges from about $50-$60. For more information on AMA, go to **www.modelaircraft.org**.

This partnership is placing a national perspective on the relationship between the two organizations and should ensure wider participation between CAP and AMA. This is also a great opportunity to further our aerospace mission and provide additional education and fun for CAP members. We hope you will visit AMA's website and learn more about them and take advantage of this wonderful opportunity. More information will be available on our AE website **(www.capmembers.com/ae)** soon!

**Major General Courter (right) and AMA President Mathewson (left) discuss new opportunities to stimulate an appreciation of aviation and aerospace technology for youth through aeronautic modeling.**
**(Pictures courtesy of Maj. Chris Story, CAWG Director of Public Affairs.)**

## Celebrating the Chimps in Space Program!

January 31st will mark the 50th anniversary of the 1951 historic flight of "Ham the Astrochimp" into suborbital space strapped inside a *Mercury* capsule. Ham's mission as the first intelligent being to ride in an American rocket laid the foundation for the U.S. manned space flight program -- from landing on the Moon to the construction of the International Space Station. Working with intelligent animals helps biomedical specialists determine how mankind will react to environments in and out of the Earth's atmosphere. To find out more about the U.S. Animals in Space Program, go to **http://history.nasa.gov/animals.html.** Explore careers wherein the educational investigation of animal physiology is an important factor!

**Right: Ham checks out his space equipment**
**Above: Ham in training for space**

Aerospace Education News

# REGION TO REGION

**For information on other pertinent dates for CAP Members and Educators, go to our calendar at www.capmembers.com/ae.**

## NORTHEAST REGION

**March 18-19**
Celebration of Teaching & Learning Premier Professional Development Conference for educators to share their passion for teaching and learning will be held at the Hilton New York in New York City, New York.
**http://thirteen celebration.org/**

**April 2**
Mother/Daughter TEA (Technology Engineering Aptitude) one-day professional development workshop will be held at the Engineering Center in Boston, Massachusetts. This workshop is for teachers or other professionals who may want to present TEA workshops in their communities.
**http://www.engineeringedu.com/pw/teatraining.html**

## MIDDLE EAST REGION

**February 24-25**
The 15th Annual Children's Engineering Convention will be held at the Richmond-Koger Conference Center in Richmond, Virginia. This event is a professional development for teachers in grades K-5.
**http://www.childrensengineering.org/convention/convention.php**

## GREAT LAKES REGION

**February 10-12**
2011 Science Education Council of Ohio Professional Development Conference will be held at the John S. Knight Center in Akron, Ohio.
**http://www.secoonline.org/**

## SOUTHEAST REGION

**February 17-19**
Georgia Science Teachers Association will hold its annual conference at the Hyatt Regency in downtown Atlanta, Georgia.
**http://www.georgiascienceteacher.org/**

**March 26-27**
2011 Florida International Air Show will be held at the Charlotte County Airport in Punta Gorda, Florida.
**http://www.floridaairshow.com/**

**March 29-April 3**
The 37th Annual Sun 'N Fun International Airshow & Expo with a Teacher Workshop will be held at the Lakeland Linder Regional Airport in Lakeland, Florida.
**www.sun-n-fun.org**

**April 1-2**
The 18th Annual Great Moonnbuggy Race will be held in Huntsville, Alabama at the U.S. Space and Rocket Center. Entries must be postmarked no later than March 28, 2011.
**http://moonbuggy.msfc.nasa.gov/compete.html**

## NORTH CENTRAL REGION

**January 19-22**
The Association for Science Teacher Education (ASTE) will hold its International Conference at the Hilton Minneapolis in Minneapolis, Minnesota.
**http://theaste.org/meetings/2011conference/**

**March 4**
Mother/Daughter TEA (Technology Engineering Aptitude) one-day professional development workshop will be held at Missouri Southern State University in Joplin, Missouri. This workshop is for teachers or other professionals that may want to present TEA workshops in their communities.
**http://www.engineeringedu.com/pw/teatraining.html**

**March 24-26**
ITEEA (International Technology and Engineering Educators Association) presents its 73rd Annual Conference Preliminary Program at the Minneapolis Convention Center in Minneapolis, Minnesota.
**http://www.iteea.org/Conference/precon.pdf**

**March 31**
The Minnesota Conference on Science Education will be held in Mankato, Minnesota.
**http://www.mnsta.org/conference.html**

## SOUTHWEST REGION

**February 3-5**
The 17th Annual Space Exploration Educators Conference (SEEC) will be held at Space Center Houston in Houston, Texas. *As the premier aerospace educators' conference in the nation, you are encouraged to attend.
**http:www.spacecenter.org/Teachers SEEC.html**
***CAP will conduct a session on ACE and offer aerospace sessions and Teacher Orientation Program (TOP) Flights in CAP aircraft.**

**February 8**
OESE (Oklahomans for Excellence in Science Education) will present Women in Science Conference 2011 at the Science Museum Oklahoma in Oklahoma City, Oklahoma. This event is for teachers and students in grades 6-12.
**http://www.oklascience.org/**

**February 7-11**
The Texas Computer Education Association (TCEA) presents its annual convention and exposition at the Austin Convention Center in Austin, Texas.
**http://tcea2011.org**

## ROCKY MOUNTAIN REGION

**No events for this issue.**

## PACIFIC REGION

**February 24-26**
Women in Aviation International will hold its 22nd Annual Conference at the Grand Sierra Resort in Reno, Nevada. To find out about the educator workshop session, visit the website below.
**http://houston.wai.org/11conference/2011_conf_seminars.cfm**

**March 10-13**
National Science Teachers Association (NSTA) will hold its National Conference in San Francisco, California.
**http://www.nsta.org/conferences/2011san/?lid=hpf**