



NEW YORK WING, CIVIL AIR PATROL



AEROSPACE EDUCATION NEWSLETTER ONLINE

March – April 2021



Celebrating the Magic of Flight

Credit – Southeast Region Flight Academy, CAP (August 2020)

NEW YORK WING AEROSPACE EDUCATION OFFICER OF THE YEAR 2020



Capt Gallo Preparing for Mission Day

Congratulations to Capt Joseph 'Gru' Gallo, CNYG AEO (NY-134), for winning the Maj Gen Jeanne M. Holm, USAF Memorial Award – Aerospace Education Officer of the Year 2020!

Capt Gallo was recognized for his ***incredible energy, commitment and creativity in Aerospace Education.***

One of Capt Gallo's initiatives was the creation of **Aerospace Education Days**. These events involved a myriad of activities and learning opportunities for cadets throughout the New York Wing. Activities included O-Flights, Redbird Simulator use, tours of the Hancock Airport Control Tower, tours of the ANG MQ-Reapers and their simulators, ground schools and in one instance a static display of an active duty USAF C-130 Hercules.

Capt Gallo's innovative approach to AE has benefited the members of the Central New York Group. Capt Gallo is also active in CAP's Emergency Services program and has active ratings as a Mission Scanner and Mission Observer. Capt Gallo served in the USAF as a B-52 Avionics Technician (1975-1985), an ANG A-10/F-16/ MQ-9 Avionics Technician (1986-2016) and is currently an RF Design Engineer for Lockheed Martin. **Capt Gallo, thank you for your service and your commitment to CAP and the AE mission. Congratulations again for this well-earned honor!**

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CADET NEWS

An Introduction to the U.S. Space Force

By Cadet Soren Kyser

Recently, I had the privilege of participating in a zoom presentation to celebrate the first anniversary of the founding of the U.S. Space Force (USSF). The speaker, Mark Shields, is a radio operator who works with the USSF, and he discussed the importance of space to our society.

The U.S. Space Force is the newest service in the Department of the Air Force. The presentation was very interesting and provided me with a greater understanding of what the Space Force does for our country. Mr. Shields discussed the mission of the USSF, which is to make sure that every rocket or satellite that is sent up into space is safe and will not cause a dangerous situation while orbiting Earth.

Another job of people working in the Space Force is to be prepared in case of a space war. A space war would involve destroying other countries' satellites. I learned about the many possible ways that satellites can be attacked by other satellites. One way is by lasers, which can destroy the cameras of the satellite thereby making them useless.

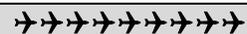
U.S. Space Force (cont.)



A kinetic kill is when two satellites crash into each other causing great damage. It is the Space Force's mission to make sure these types of attacks do not occur. The USSF also ensures that satellites are monitored at all times and that their orbits are safe for everyone on Earth. One interesting fact I learned was that the U.S. has the most satellites in space!

Mr. Shields also discussed what is involved in working with the space force, including the possibility of going into space. I really enjoyed this presentation and was informed about many new subjects and ideas. Mark Shields did a wonderful job explaining the importance of the U.S. Space Force, and possible opportunities we, as cadets, could have with this service.

Soren Kyser lives in Bemus Point, New York, and is a Civil Air Patrol cadet in Squadron NY-402. Soren enjoys participating in karate and playing the violin, and activities within the Civil Air Patrol.



QUARTERLY NY WING AEO MEETING Mark Your Calendar

The next **Quarterly NY Wing AEO Meeting will be held:**

Monday, 26 April at 1930 hours

All AEOs are invited.
Look for the invitation next month.



AE EDUCATOR 101

By Lt Col Anita Martin, Director Aerospace Education

Background: When the CAP School Program began, it typically was staffed with school educators who operated on a yearly curriculum. To assist the teachers, a school training plan was given to them. Today, that training plan is *available to all units* and is located on the CAP national website, in the Cadet Library. Go to:

www.qocivilairpatrol.com/programs/cadets/library

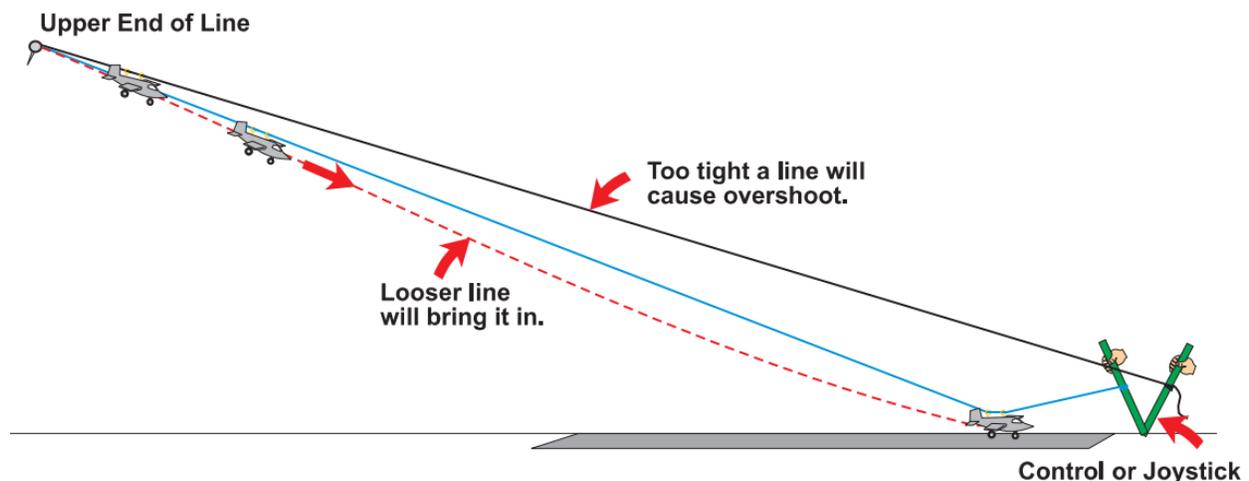
This is a full 24-month plan to get through the first two leadership books (along with applicable leadership activities), all six AE Modules (also with applicable activities), model rocketry and AEX! We want to give you ways to extend your AE training to receive more credits for less work!

→→→ This March/April Wing Tips takes look at the Cadet Programs' Cadet Library, Squadron Training Plan, for the 15th and 16th month. We have a couple of Two-fer-One opportunities.

The 15th Month (Mar) schedules **Aerospace Dimensions, (AD) 2.2 Airports**. This chapter covers the airport, flight profile, runway markings and lights as well as their safety features to an airport.

AD Module 2 Activity Four – Hey You, Bravo-Oscar-Bravo! This introduces knowledge of the phonetic alphabet used by pilots and Air traffic Controllers. This time it is not our usual AEX activity. The *Mission Base Staff Task Guide for Mission Radio Operator for Emergency Services L-0002, Demonstrate Knowledge of the International Phonetic Alphabet* is a requirement for all radio operators. You can sign off your ES Radio Operator trainees with this training. Members must have already attained their General Emergency Services. Two Bangs for your Buck!!

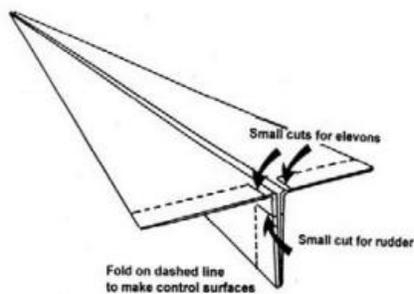
AD Module 2 Activity Five – The Final Approach! Is the same AEX II Activity Seven – The Final Approach! This is a great Two-fer-One activity which simulates the final approach and landing of an airplane. Some preplanning is required to get the required model airplane, nylon fishing line and eye screws. This is a great activity for simulating a landing and the difficulty involved in judging both speed and angle upon final approach, descent and landing. Two Bangs for the Buck!



The 16 Month (Apr) again references the booklet, *Let's Go Flying (AGF) -- Part Two – So, You Want To Learn to Fly*. AGF is CAP's **Drug Demand Reduction Program** to raise the awareness of how the aviation industry has a zero tolerance for alcohol and drug abuse.

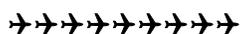
Let's Go Flying and the **Let's Go Flying Instructor Guide** can be found at:

<https://www.gocivilairpatrol.com/programs/cadets/activities/cadet-flying/lets-go-flying>



The Instructor's Guide suggests each student use a paper airplane to walk through a flight profile: runway, takeoff, and landing. Each student can use a paper airplane to "fly," by walking around the room, in an organized traffic pattern. **AEX I Activity 3 - Paper Airplanes Back to Basics** lesson's objective is for the student to be able to construct and fly a classic paper airplane to create a lesson in controlled flight. This activity is a good opportunity for both cadets and senior members in the unit have an AE lesson! This gives you Two Bangs for the Buck.

You have two Bangs for the Buck with Aerospace Dimensions and AEX and two bangs for the buck with Aviation and CAP's Drug Demand Reduction zero-tolerance Message! Once again, that's **ONE CREDIT FOR DOING AEROSPACE DIMENSIONS** activity and **ONE FOR AEX CREDIT!** *Again, that's 2 Bangs for your Buck!!* Stay tuned for the **May/June** Edition of Wing Tips for more exciting AE Educator 101 tips to get more "Bang for your buck"! →→→



CELEBRATING THE 95TH ANNIVERSARY OF THE FIRST LIQUID-FUELED ROCKET!

Submitted by Lt Col Jacqui Sturgess

The Long March 8 (China). The Ariane 5 (Europe). The GSLV Mark III (India). The H-IIA (Japan). The Soyuz 2 (Russia). The Atlas V (US). The Falcon 9 (US). The Titan IV (US). Those are just a few the operational orbital rockets in use around the world. Rocket launches today are commonplace, with 104 successful launches in 2020. Even as we accept the impressive rocket technology of today, it's important to look back and celebrate the advances that made modern rocketry possible. While rocket history can be traced back more than 1000 years to China, the true birth of modern rocketry occurred 95 years ago this month.



Source - NASA.gov

Recognized as the "Father of modern rocketry", **Dr. Robert Hutchings Goddard** (1882-1945) developed the first liquid-fueled rocket which was launched on **16 March 1926**. Supported by a portable framework that served as a launching pad, the small rocket lifted itself 41 feet into the air and in 2.5 seconds traveled a distance of 184 feet; it reached a velocity of 60 miles an hour before smashing into the ground. The launch site in Auburn, Massachusetts is marked now by a monument erected by the American Rocket Society; this site is the "Kitty Hawk" of rocketry in America. Dr. Goddard received financial support from the Guggenheim family and moved to Roswell, New Mexico where he worked for 12

years constructing and flight testing many designs. During World War II he moved to Annapolis where he designed the first liquid-fueled assisted aircraft take-off, and he perfected the design of the anti-tank weapon he had developed during World War I: it became known as the "Bazooka."

Aerospace Education Tip - In celebration, consider running **The Goddard Rocket** activity in your squadron. The details can be found in CAP's **Model Rocketry** program or AEX Activity booklets.

AEROSPACE EDUCATION RESOURCES

DID YOU KNOW?



Malachowski Made History as First Woman Selected as Thunderbird Pilot



Retired Air Force Col. Nicole Malachowski, a former CAP cadet who became the first female Thunderbird pilot, is featured in the National Business Aviation Association's series for Women's History Month.

Before she was commissioned into the military from the U.S. Air Force Academy and made history as the No. 3 Right Wing pilot (pictured above) with the Thunderbirds, Malachowski was a cadet in the Nevada Wing. She served in CAP six years and soloed when she was 16.

During her 21 years as an Air Force officer, leader and fighter pilot, her accomplishments were many, earning her induction into the National Women's Hall of Fame in 2019.

[More on Malachowski and Her Achievements](#)

Have you checked your email lately for the most recent issue of **PROPS**, the weekly newsletter?

PROPS includes many topical articles including aerospace updates. If you missed it, you can find the latest and back issues at:

<https://www.cap.news/props-newsletters/>

AIR AND SPACE LIVE



The **National Air and Space Museum** is presenting a series of virtual lectures covering all aspects of aerospace. The themes include:

- Exploring Space Lectures
- What's New in Aerospace
- STEM in 30

These lectures can complement your AE program. Alert your squadron members, especially the cadets as many are designed for students.

You can access the upcoming calendar of events at: <https://airandspace.si.edu/visit/events>

Past events can be viewed at:

<https://airandspace.si.edu/connect/air-and-space-live/past-webcasts>



Northeast Region AEO Course

23 March to 8 April 2021
Tues and Thurs from 7:00 to 9:00 PM EDT
Conducted Via Zoom
Includes at-home Assignments

COURSE GOALS:

- To educate AEOs at all levels about their duties, the resources available, how to plan and implement curriculum tools and workshops
- To share experiences and ideas to provide excellence in the CAP AE program
- To increase effective communication between AE Officers at all levels

COST: There is no cost to attend this event, just your time!!

To Register: <https://ner.cap.gov/index.php/event-booking/pro-dev/aeo-school/11-ner-ae-officer-course>

18th National Aerospace Education Officer School (Virtual)

Friday, 4 June and Saturday, 5 June 2021
Friday 9:00 AM – 4:00 PM EDT
Saturday 9:00 AM - noon EDT

The agenda will cover training matters concerning AEO duties and responsibilities, as well as AE products, programs and a few hands-on activities. **As an added bonus, each participant will receive two STEM Kits.**

Registration:

There will be a two-step registration process that each attendee must complete:

1. To register, go to [Eventbrite here](#).
2. Complete the [AEO School application](#) and email to aex@capnhq.gov.

Registration is available on a first come, first served basis and closes on April 23. Attendance is limited to 225 AEOs. *Note: As of this publication the course is full – but you can be placed on the waitlist.*



AEROSPACE HISTORY

Celebrating the Women's History Month

Compiled by Lt Col George Geller

Pioneering Female Aviators – Part 2

March is Women's History Month, which is a celebration of the vital role of women in American history. In this last issue we provided profiles of pioneering female aviators and in this issue we continue with celebration of these extraordinary individuals.



Snook at Kinner Field, California
Source - Ames Historical Society

Neta Snook - History remembers many aviators, but have you ever heard of Neta Snook? Mary Anita "Neta" Snook was born in Illinois in 1896 and moved to Iowa with her family as a teenager. Her childhood interest in aviation followed her father's love of mechanics. She enrolled in Iowa State College (today Iowa State University) where she took many classes in mechanics. She applied to the Curtiss-Wright Aviation School, but was rejected for being a woman.

After a second application, she successfully earned her license in 1918. Neta bought a wrecked JN-4 Jenny Curtiss plane and she worked on it for two years. In 1920 she took apart her plane and shipped it to California in hopes of better flying weather than Iowa provided. After getting her flight instruction license, Neta Snook became the first woman to run a commercial airfield, Kinner Field in Los Angeles. She even taught Amelia Earhart to fly in 1921! Snook continued to break barriers and was the first woman to fly in an air race. She said, "I'm going to fly as cleverly, as audaciously, as thrillingly as any man aviator in the world."

Reprinted from Dayton Aviation Heritage National
Historical Park Facebook Post – 11 March 2021



Cochran with Chuck Yeager after breaking the
sound barrier in 1953. Source Smithsonian.com

Jacqueline "Jackie" Cochran - Before the US joined World War II, Cochran was part of "Wings for Britain", which ferried American built aircraft to Britain, becoming the first woman to fly a bomber (a Lockheed Hudson V) across the Atlantic. In Britain, she volunteered her services to the RAF. Cochran worked for the British Air Transport Auxiliary (ATA), recruiting qualified women pilots in the United States to join the ATA.

Cochran became the Director of the Women Airforce Service Pilots (WASP) and helped train hundreds of female pilots. Cochran was also the first woman to land and take off from an aircraft carrier. She went on to receive many military awards including the Distinguished Service Medal. She later joined the U.S. Air Force Reserve as a lieutenant colonel. After her military career, Cochran set numerous records for flying including the first woman pilot to break the sound barrier. Jackie died on August 9, 1980 at the age of 74 in Indio, California.

Reprinted from Veterans' Foundation
Facebook Post – 8 March 2021



Orville, Katharine, and Wilbur Wright in 1909
Source – NASM

Katharine Wright Haskell - was the younger sister of famed airplane inventors Wilbur and Orville Wright. Unlike her brothers, Katharine finished college, graduating with a degree from Oberlin in 1898. After graduation she secured a teaching position at Steele High School in Dayton.

Katharine ran the Wright family's household and managed the Wright Cycle Company while Orville and Wilbur worked to perfect their flying machine. After the brothers' first successful flight in 1903, she left her teaching position to assist them. Katharine managed the business from behind the scenes . . . she responded to reporter inquiries, and answered questions from the public about the science of their invention. Katherine became a celebrity in her own right.

Always a tight knit family, Katharine was by Orville's side while he recuperated from a crash in 1908. She traveled with her brothers all over the world and regularly accompanied her brothers in the air—her flights helped bolster public confidence in the new invention.

After Wilbur died in 1912, she became an officer at the Wright Airplane Company. She continued to travel the world, was active in the fight for women's suffrage and dedicated time and financial support to Oberlin College. Katharine died in 1929.

Reprinted from Ohio History Connection
Facebook Post – 8 March 2021



Bessie in her flying garb
Source - JDA Journal

Dr. Bessie Coleman - was the first woman accredited by the Aeronautical Society of the United States with flying solo. This accomplishment is even more amazing when you realize that the plane, a Wright type biplane, was built, with her husband, in their living room in Mineola, NY. They used some lighter weight materials and assembled it in their yard. Prior to her flight on Sept. 16, 1910 she had no flight experience.



Blanche Scott in her biplane, circa 1910-1916
Source – Wikipedia

Blanche Stuart Scott - became famous as the second woman to drive an automobile cross country. This brought her to the attention of Glen Curtiss and she became the only woman he gave flight instruction to. He had her practicing taxiing in a plane that had a governor on the throttle so it wouldn't take off, but it was still able to take flight. Scott landed the plane safely and was acknowledged by the Early Birds of Aviation as the first female to pilot & solo in the US. She became the first female test pilot.

Lt Col Ruth Rowland Nichols, CAP – A Special Tribute

By Lt Col Marilyn Rey



Nichols in 1932
Source - Wikipedia

Ruth Rowland Nichols was an American aviation pioneer. Born in 1901, she is recognized as the only female aviator to hold simultaneous world records for speed, altitude, and distance. She soloed in a flying boat and received her pilot's license after graduating from Wellesley College in 1924, becoming the first woman to do so in New York.

Much to the chagrin of her parents, in January 1928 Nichols flew nonstop from New York City to Miami with Harry Rogers in a Fairchild FC-2. The flight brought her fame as "The Flying Debutante" and Sherman Fairchild soon hired Nichols as a northeast sales manager for Fairchild Aircraft and Engine Corporation.

Along with Amelia Earhart and many others, she founded the Ninety-Nines, an organization of women pilots that still exists today. While working for Fairchild in the 1930s, Nichols continued her flying and set several records piloting a Lockheed Electra. Nichols connection with CAP started during WWII and she ultimately achieved the rank of Lt Colonel.

Her other accomplishments include founding the Long Island Aviation Country Club and she participated in the 12,000-mile Sportsman Air Tour to promote aviation clubs around the country. In 1958, she co-piloted a TF-102A Delta Dagger and reached 1,000 miles per hour and an altitude of 51,000 feet, which set a new women's speed and altitude record. Nichols passed away in 1960.

Nichols was a prolific pilot and flew many different types of aircraft including dirigibles, gliders, autogyros, seaplanes, biplanes, triplanes, transport aircraft, and a supersonic jet. Nichols was posthumously inducted into the National Aviation Hall of Fame in 1992.



Source - Brazilian National Archives

The **New York Wing** is directly connected to **Lt Col Nichols** and in honor of her service, dedication and accomplishments, the **Aerospace Display Conference Award** is named after her.

This traveling trophy consists of a stainless steel model of the Italian Macchi M.39 that won the 1926 Schneider Cup race at Hampton Roads, Virginia and set a land speed record of 246.9 miles an hour.

The symbolism to Colonel Nichols is because she was rated in seaplanes, held numerous aviation records, and broke the sound barrier while flying in a TF-102 Delta Dagger – the first woman to fly this supersonic fighter.



The winning team is entrusted with the **Lt. Col. Ruth Rowland Nichols, CAP, Memorial Award** for one year and then returns it to wing at the next wing conference.

Aerospace Education Tip – Use these profiles and others in **Women in Aviation & Women in Aviation 2** from the [AE Downloads and Resources](#) in eServices to develop and conduct squadron AE activities.



USING THE SQUADRON AEROSPACE EDUCATION ACHIEVEMENT AWARD AS YOUR PLAN OF ACTION (POA) – Reminder

This is a reminder that IAW CAPR 50-1, 9 Nov 2020, National HQ no longer requires *squadrons and groups* to submit an electronic Plan of Action (POA). **The NYW AE staff still strongly recommends** that each squadron and group prepare its own POA and has **endorsed using the Squadron Aerospace Education Achievement Award as your POA**. We have created a template for AEOs and CCs to help them fulfill the new requirement for a (notebook or digitally documented) discussion between the AEO and CC to discuss the AE activities planned for the year. **You can access this form at <https://nyw.cap.gov/ae> under “Squadron AE Plan of Action.”**

In order to earn the Squadron AE Achievement Award, a squadron must perform eight of the tasks listed on the achievement award requirements in [CAPR 50-1, Att 5](#). **Set a goal for your squadron to earn the Squadron AE Achievement Award and your POA will follow. It’s not too late to get started.**

In fiscal year 2020, 13 squadrons achieved this recognition and 11 in 2019. **For 2021, the NYW has set a goal for 26 squadrons, double our 2020 number, to earn this award. Working together we can inspire our members on all things aerospace and further the CAP mission as well as achieving OUR own goal, to receive the 2021 AE Mission Award that identifies the best wing in AE in the Region.**

AEROSPACE EDUCATION EXCELLENCE (AEX)

Your **2021 POA** should include signing your squadron up and achieving the [Aerospace Education Excellence Award](#) or AEX. Currently, 22 units within the NYWG are signed up. There is plenty of time to complete the activities, which indicate a robust AE program. Our goal for the Wing is to have 26 squadrons/groups completing the AEX program. Apply for the AEX on [eServices](#). See page 12 for downloadable AE resources. Please contact Capt Dicht at capaerospace@gmail.org with any questions.

LOGIC AND PUZZLE SECTION

From CAP Aerospace Mini Book of Logic and Puzzles

By Lt Col Anita Martin, DAE

In each *Wing Tips* issue, we are providing you with a Critical Thinking Puzzle from *the Civil Air Patrol Aerospace Mini Book of Logic and Puzzles*. The Civil Air Patrol believes that “Critical Thinking” is a valuable skillset for leaders, and it devotes a whole chapter to it in the LEARN TO LEAD: VOLUME TWO: TEAM LEADERSHIP, Ch 5: Brain Power for Leadership; Principles of Critical Thinking:

... critical thinking is the habit of being guided by universal values of logic and a deep respect for the truth. As with other aspects of leadership, becoming a critical thinker is more a journey than a destination. Everyone is subject to lazy thinking or irrational thought from time to time. Therefore, developing the ability to think critically is a lifelong endeavor, a never-ending process.

“[Critical thinking] is a desire to seek, patience to doubt, fondness to meditate, slowness to assert, readiness to consider, carefulness to dispose and set in order; and hatred of every kind of imposture.”

SIR FRANCIS BACON - One of the first thinkers to use the scientific method

This issue's Critical Thinking Puzzle is "Solar System Math"

Directions: This exercise uses math problems to illustrate the vast size of the solar system and uses references we know on Earth as comparisons to other planets. (Solution on Page 14)

SOLAR SYSTEM MATH

I. On the average, Neptune is approximately 2,800 **million** miles from the sun. If an airplane flies at 1,400 miles per **hour**, how many **years** would it take to fly from Neptune to the Sun?

II. What is your age on Earth? _____
Mercury circles the Sun **once** every _____ Earth days.
Convert your Earth age to your age in Mercury years _____
HINT: A Mercury year equals one circle of Mercury around the Sun.

III. Compare the diameter of Saturn's largest moon with the four Galilean satellites of Jupiter.

Galilean satellite Io

Galilean satellite Europa

Galilean satellite Ganymede

Galilean satellite Callisto

Saturn's largest moon, _____, has a diameter of
_____ miles.

IV. **FOR EXTRA CREDIT:**

List two sources in which you can find Mercury's orbit time around the Sun. **OR**
List two sources in which you can find the diameter of Jupiter's four Galilean moons.

PERSPECTIVES ON AEROSPACE EDUCATION PLANNING

By Capt Burt Dicht, NYW External AEO



It hit me recently as I was reviewing my calendar and trying to plan out several upcoming meetings for work . . . we're in the middle of March. I'm sure that's not earthshaking to you from the perspective of 2021, we're only a quarter into the year. More significantly, it's now month sixth of CAP's 2021 fiscal year. I started thinking about all of my AE plans for the Phoenix Composite Squadron as well as the New York City Group and the New York Wing.

The passage of time during the pandemic and the quarantine, at least for me, has made it hard to gauge where we are in the calendar. Perhaps it's because many of the normal activities we do at different times of the year that mark time's passage are no longer available to us. For that reason we lose track.

The realization that we are halfway into the fiscal year hit me hard from a CAP planning perspective. **Where are we in terms of meeting our Plan of Action (POA)? How are we going to accomplish our goals?** We've all been challenged by COVID, but we have adapted and we're doing our best to provide an engaging AE program to our members. At times it has been difficult and we have all seen some drop-off in participation and engagement. That is why it is critical to take a look at your plan and make the adjustments you need to ensure your primary goals are accomplished. (*Note – See the reminder on page 8 about using the Aerospace Education Achievement Award as your POA and applying for the AEX.*)

Below is the 2021 POA for the Phoenix Composite Squadron (NY-301):

- Recruit a new AEO and have them enroll into a specialty track
- Recruit a cadet to become a Cadet AEO
- Internal AEX
 - Create an At-home activities kit (in conjunction with virtual AEX)
 - *Need budget to cover cost, Finance Committee to discuss*
 - Increase senior member participation
 - *Need captivating subjects of interest targeting SMs*
 - Schedule to include activities and guest speakers
 - Internal AE to include shining a light on the Aerospace Dimensions booklets used by cadets for their promotion requirements
- External AEX
 - Offer Virtual Option to MS-187
 - *Reach out to Girl Scout Troop and offer AEX program*
 - Renew AEMs
 - Recruit one new AEM
 - Conduct 1 to 2 school visits (in-person or virtual)

- STEM Kit
 - Complete Cross-Country Nav by Feb
 - Request a new STEM Kit
- Awards
 - Submit Vaughn College Brewer Nomination – 15 Jan
 - *Monitor Cadet AEO, determine if suitable nominee for AFA AE Cadet of the Year, or Brewer Cadet, for next round of award nominations*
- Conferences
 - Squadron AEO(s) to attend Wing/Region and/or AEO conferences
 - Possible involvement in organizing a Wing AEO conference *or school or workshop*
- Public Affairs – work with Commander and PAO to release photos and brief articles to local media on squadron's AE activities, at minimum, twice a year
- Historical – ensure reports on squadron's AE activities, with photos, are uploaded to an historical repository on squadron's Google drive

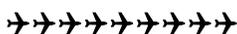
Since my POA awakening, I have been reviewing each of the goals and conducting an assessment of the status and what needs to be done in order to get them accomplished. I encourage you to do the same and do not to get discouraged or frustrated that after conducting your assessment you feel you are behind. Goals and metrics help keep us on track and let us know how we're doing. Life has a way of intruding and we all have family and work obligations.

My suggestion at this mid-point is to conduct your assessment and assign a rating of priority to each goal:

- 1 = **Must Do** (A critical goal and is required in order to meet other goals or work products. Usually these are time-critical)
- 2 = **Should Do** (An important goal, but usually not time-critical or needed to achieve other goals)
- 3 = **Could Do** (This goal would be nice to have, but typically are only attempted if you have the time and resources)

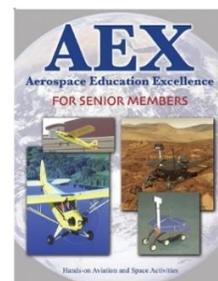
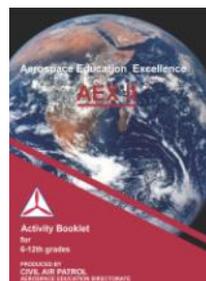
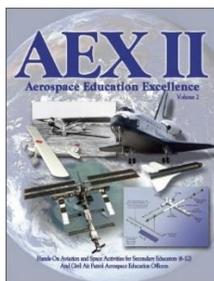
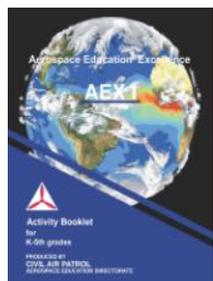
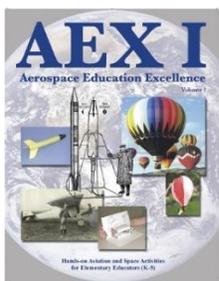
Employing this rating system will help you prioritize your goals and enable you to better deliver the greatest and most immediate benefits to your squadron's AE program that are based on your available resources. Wishing you much success as you plan out the rest of the year. If I can be of assistance, please let me know.

AE Goal Update – In the last issue I reported on the development of an At-Home AEX Kit. You can see it was in my goals. The program has been initiated and I will provide a status report in the next issue.



AE DOWNLOADS & RESOURCES

<https://www.caphq.gov/CAP.AEDownloads.Web/>



The Civil Air Patrol's Aerospace Education offers many resources that are free to its members and it includes a series of engaging and hands-on aviation and space-related activities for both cadets and senior members. The program is called AEX, and the acronym stands for "**Aerospace Education EXcellence**". AEOs can request full-color books that feature national standards-based aerospace activities - or - download them in **AE Downloads and Resources**.

The activities feature complete lesson plans that include background information, the learning objectives, a materials list, complete step-by-step instructions (pictorial and written) and the exercise. To earn the AEX award you must complete six activities (from any of the AE resources or an aerospace education lesson plan of your choice) during the fiscal year and complete at least a two-hour field experience (such as a space day, a virtual aerospace-related field trip, model rocket launch, etc.) to earn color certificates for your cadets and senior members. **Please contact Capt Dicht if you would like to learn more and also how several activities can be conducted virtually.**

SPECIAL AIAA MEMBERSHIP OPPORTUNITY FOR CAP CADETS

By Capt Burt Dicht



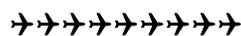
AIAA (American Institute of Aeronautics and Astronautics) is the world's largest aerospace technical society. Earlier this month they announced a new level of membership for high school students. Designed exclusively for students in **6th through 12th grades**, the **free AIAA High School Membership** provides activities, competitions, and scholarships that will promote STEM and STEAM educational programs.

The **AIAA High School Membership** includes access to:

- **AIAA Mentor Match** - This unique program helps students find, connect, and gain insights on how to succeed in aerospace by matching them with professional members.
- **STEM-focused webinars and on-demand content** - This content is inspired by students, for students.
- **AIAA Engage** - This exclusive community platform connects students with peers and provides access to the High School Student Library.
- **Design competitions** - Students can compete in annual design challenges that span the aerospace technical fields.
- **Online subscription to *Aerospace America*** - Get in-depth insight on the subject matter that is shaping the aerospace industry with this monthly digital publication.

Typically, to join AIAA you must have graduated with a science or engineering degree, be a college student enrolled in a science or engineering program, or be a pre-university STEM educator. This is a fabulous opportunity to gain access to a wealth of information and resources to learn more about careers in aerospace. I've been an AIAA member since college and **I highly recommend you share this information with your cadets**. Select the link below for more information or go to [aiaa.org/hs](https://www.aiaa.org/hs)

<https://www.aiaa.org/membership/types-of-membership/high-school-student-membership>

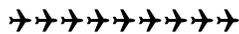


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For questions or comments about any of this issue's topics or contributions to a future issue, please email: amartin31392cap@juno.com



Solution – “Solar System Math”

For the instructor:

Solar System Math:

- I. To calculate the years to travel from Neptune to the Sun:
Calculate the number of hours per year (365 days X 24 hours per day) = 8,760
Calculate the number of miles per year (1,400 miles per hour X number of hours per year)
12,264,000
Solve for the total number of years (2,800,000,000 miles divided by number of miles per year)
228.3105023 years
- II. To calculate your age in Mercury years:
Divide 88 days (one Mercury year) into 365 days (one Earth year) = 4.15. Multiply your answer [4.15] by your age in whole Earth years to determine the age in equivalent Mercury years.
CHALLENGE: Calculate your age in whole and partial years on Mercury:
Multiply the years of your Earth age by 365.
Multiply the number of months since your last birthday by 30. Add to your first answer.
Add the number of days since the date of your birthday. Add to your answer.
Multiply your answer by 4.15 (the ratio of Mercury years to one Earth year).
- III. The Galilean satellites of Jupiter are the planet's four largest moons. They were discovered by Galileo in 1610 and were named by the German astronomer Marius. To compare the diameters of the Galilean satellites with the diameter of Titan (the largest moon of Saturn):

Determine the diameters of Titan and the four Galilean satellites:

To compare, subtract the diameter of each Galilean satellite from the diameter of Titan.

Satellite	Diameter	Difference
Titan	3,201 miles	
Io	2,256 miles	945 miles
Europa	1,950 miles	1,251 miles
Ganymede	3,270 miles	- 69 miles
Callisto	2,983 miles	149 miles

