



# PALM SPRINGS AIR MUSEUM



Women in Aviation honored at the 2023 Palm Springs Air Museum Gala (left to right)

Top row: Vicky Benzing, Eileen Collins, Capt. Elizabeth Somerville

Middle row: Chief Warrant Officer Lourie A. DeBoer, Tammie Jo Shults, Ellen Ochoa

Bottom: Commander Sarah Abbott, Women Airforce Service Pilots Advocate Erin Miller

The Palm Springs Air Museum is a living history museum dedicated to educating the public about the role airpower played in preserving American liberties and way of life. The museum preserves, exhibits, and flies aircraft from World War II, Korean War, Viet Nam, and the Global War on

## STUDY GUIDE Quest for Excellence: Women in Aviation Documentary



Ellen Ochoa, NASA Astronaut/ Director  
Johnson Space Center

[palmsspringsairmuseum.org/education](https://palmsspringsairmuseum.org/education)

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## Women in Aviation

How do we tell the story of women in aviation? The vibrant television special, *Quest for Excellence: Women in Aviation*, focuses on the extraordinary story of how some unique women broke the sound barrier and shattered the glass ceiling. From Amelia Earhart to Ellen Ochoa and beyond, they have honed their technological prowess and ongoing belief in the possibilities of what women can accomplish in a field dominated by men. They live by the belief, “You can’t be what you can’t dream.”

***Quest for Excellence: Women in Aviation*** is a one-hour broadcast television special. It provides a chance for viewers to meet ground-breaking women in aviation, many honored at the 2023 Palm Springs Air Museum’s annual gala. Women fighter pilots, astronauts, heroes, and daredevils. The honorees included the first Latina in space, the first female commander of a naval air test base, the first female commander of a space shuttle mission, the fastest female speed record holder in a Reno air race, the female Captain hero of Southwest Flight 380, and many more. Their accomplishments and contributions to aviation span decades. The Palm Springs Air Museum provides a platform to tell engaging stories with historical accuracy, featuring the planes pilots flew and the stories behind them. They have the muscle to tell stories that are engaging, impactful, and inspiring.

*Quest for Excellence: Women in Aviation* offers educators and students an extraordinary opportunity to connect with these women while learning their fascinating individual stories.

### Curriculum Connections

*Quest for Excellence: Women in Aviation* is useful for science, history, social studies, geography, and ethnic studies courses. It is recommended for 5<sup>th</sup>-grade students and above. The program connects with many state standards and curriculum guides in history and social studies.

Throughout this study guide, there are discussion questions for you to ponder, discuss with a friend or family member, or review in a classroom setting. The questions can be used in small or large group settings, or some can be answered in essay format for further exploration.

Questions are noted with a zooming arrow reminiscent of flying aircraft. For example:

- What is the meaning of the word “aviation?” Aviation includes the activities surrounding flight and the aircraft industry.
- What does it mean to be an aviator?

Sometimes there are comments to aid you in the discussion. For example, aircraft includes fixed-wing and rotary-wing types, morphable wings, and wing-less lifting bodies, as well as lighter-than-air craft such as hot air balloons and airships.

## PREVIEWING ACTIVITIES

### Experience with Aviation

Discuss the following topics with a partner, friend, or family member.

- Have you ever flown? Where to? When? Why?
- Are there any women aviators in your family or the local community? What are their stories?
- What role does aviation play in your local community? What opportunities are available for any type of flight? What are the local airports? Is there a high school or college that trains pilots or maintenance workers for aircraft?
- What **important events and people** do you know about in the history of aviation? Make a list and review it again during or after watching the program to determine what can be added to the list.
- What are the **types of aircraft** with which you are familiar? Create a list. As you view the program, list all the types of aircraft that can be seen at the Palm Springs Air Museum.

## DURING-VIEWING ACTIVITIES

Families and classes of students are encouraged to watch this program together and discuss its meaning and relevance to their local community and their family histories.

### Questions to Answer

Create a list of questions you would like answered as you view the program. After the program, revisit the questions to see if they were answered. If not, what can you do to find the answers?

- Who were some of the first women in aviation?

As you view the video, seek out the stories of the early women in aviation. Your list might include Raymonde de la Roche, Blanche Stuart, Harriet Quimby, Bessie Coleman, Amelia Earhart, and Jackie Cochran.

### Search and Find

As you view the video, identify the following women:

- one of the first female fighter pilots of an F-18 Super Hornet (1985 Tammie Jo Shults)
- the first Latina in space (1993, Ellen Ochoa)
- the first female commander of Naval Test Wing Atlantic (2022, Elizabeth M. Somerville)
- the first female commander of a space shuttle mission (1999, Eileen M. Collins)
- the internationally renowned pilot, skydiver, aerobatic performer, and the fastest female speed record holder in a Reno air race (Vicky Benzing)
- the female Captain hero of Southwest Flight 380 (2018 Tammie Jo Shults)
- a Chief Warrant Officer 5, USA test pilot, instructor, and combat pilot (Lourie A. DeBoer)
- advocate for Women's Air Service Pilots (WASP) military honors at all national military cemeteries (Erin Miller)

### Search and Find:

- Who were some of the **first women in space**? As you view the video, listen for the stories of the first women in space. You might seek out Rhea Seddon, Sally Ride, Ellen Ochoa, and Eileen Collins.
- **What careers are available for women in aviation or space?** Today women fly for commercial airlines, fly in the military and in space, fly in air races, helicopter mercy flights, command naval air bases and so much more.
- What is the Palm Springs Air Museum's **First Flight**? It is a program to spark an interest in a career in aviation or space travel. Included is a flight on a Cessna 182 for kids ages 12 to 17.
- What is the Palm Springs Air Museum's **Young Science Professional Scholarship Foundation** (yspsf)? It is a \$10,000 scholarship for full-time undergraduate or graduate students currently applying/attending a four-year college.

### List of Important Events and People from Aviation History

Before viewing the program, you made a list of important events and people you knew about from aviation history. Review this list and ask, "What can we now add to the list?"

## AFTER VIEWING ACTIVITIES

### Women Astronauts

By 2019, female astronauts represented roughly 12% of all space travelers. As of 2021, there were 72 women with completed spaceflights.

- How did these women astronauts get there? What are their educational backgrounds, workforce backgrounds, talents, and lifetime accomplishments?
- Who was the first female astronaut? (In 1963 Soviet cosmonaut Valentina Tereshova became the first woman in space.)
- Who was the first American female astronaut? (Sally Ride was the first American woman to fly in space in 1978. She finished her Ph.D. in physics at Stanford University. After five years of training, she finally flew on the Space Shuttle Challenger in 1983.)
- Who is Christa McAuliffe and how is she remembered?

Other women astronauts to study include Mae Jemison, Eileen Collins, Ellen Ochoa, Kalpana Chawla, Peggy Whitson, Christina Koch, Jessica Meir, and Kate Rubins.

### For Further Study – Women in Aviation

<https://www.thoughtco.com/women-in-aviation-timeline-3528458>

Available links on the timeline include:

- Biography of Amelia Earhart, Pioneering Female Pilot
- Amelia Earhart Quotes
- Bessie Coleman
- Biography of Harriet Quimby
- Harriet Quimby Quotes
- They Never Became Astronauts: The Story of the Mercury
- Women in Space - Timeline
- Women Astronauts

Many of the above topics include additional links. For example, *The Women in Space Timeline* includes the following links:

- Women in Space
- Sally Ride
- Sally Ride Photo Gallery
- Ellen Ochoa: Inventor, Astronaut, Pioneer
- Valentina Tereshkova: The First Woman in Space
- Biography of Judith Resnik, Second American Woman in Space

The last entry in the *Women in Space Timeline* was in 2014. Research the recent Women in space since 2014 and update the timeline.

## Essential Traits of a Good Leader

The program, *Quest for Excellence: Women in Aviation*, provides a roadmap for girls and boys alike who have a vision they want to pursue, whether in aviation or another field.

While demonstrating courage, integrity, perseverance, and confidence, the women portrayed in this program showed personal character. These are some of the essential traits needed for good leadership.

- What are the essential qualities of a good leader?

Qualities you may include:

- ✓ willing to take risks.
- ✓ a willingness to take action promptly.
- ✓ willing to act alone and in some cases take an unpopular position.
- ✓ willing to be fully accountable for the action that is taken.
- ✓ must be able to communicate her vision to others.
- ✓ plan for mistakes or failures to rebuild trust.
- ✓ never allow mistakes or failures to shake her self-confidence.
- ✓ learns from mistakes or failures.
- ✓ a vision that brings out the best in her followers.

## Challenges Faced

Most leaders have faced challenges. Discuss the women in the program and the challenges they faced in their careers. How did they respond to crises? What success did they have in getting support for their goals?

- Ask an adult what crisis or challenge he or she has faced. How did he or she handle it? What did you learn from the experience?
- Would you have handled the challenge the same way?

Work together in groups of four to research one of the women on pages 7 to 14 of this guide, from the DVR program, or another aviator or famous person. Identify the challenges faced and how the person responded.

Name of Person	Major Job	Challenges Faced	Response to Challenge

Share the results of your research and record information on the above chart.

## Report Card Assessment

You are being given the task of “grading” the aviators on pages 7 to 14 or other famous persons researched in the previous activity.

You have examined the challenges faced and the responses to these challenges. You now have the responsibility of creating a report card.

You may evaluate all the people listed in the above chart or just the one researched by your group.

Your job is to identify the qualities and actions that make someone effective and rate the success of the person/s against those standards and qualities. While all the women receive a grade of all A's, in which categories does each aviatrix excel?

<b>Courage</b> is the choice and willingness to confront danger, fear, pain, uncertainty, or intimidation. A courageous person has the mental or moral strength to withstand difficulty.	<b>Ethics</b> is a measure of integrity. A person who scores high in this category will have no major scandals, making it easier for them to carry out their duties. Ethics generally refers to the rules of code of conduct that people use to determine when an action is right or wrong.
<b>Crisis Response</b> is a measure of the person's ability to act decisively and effectively in times of crisis.	<b>Vision</b> is the ability to think about or plan the future with imagination and wisdom. It often includes creativity, inventiveness, or innovation.
<b>Charisma</b> is a measure of the compelling, magnetic charm or appeal that can help the person gain popular support and inspire devotion in others. It is a personal magic of leadership that supports special popular loyalty or enthusiasm.	<b>*Perseverance</b> is the continued effort to do or achieve something despite difficulties, failure, opposition, or delay in achieving success. A person shows perseverance by continuing when other people might have stopped.

\*Perseverance is also NASA's car-sized robotic rover looking for signs of past life in a region of Mars called the Jezero crater. Nicknamed Percy, it is part of NASA's Mars 2020 mission.



## Women in Aviation Honorees

Following are the biographies of eight women who were honored at the Palm Springs Air Museum Gala on February 18, 2023. As you read their stories, you will see their incredible accomplishments.

Using the *Essential Traits of a Good Leader* (page 5), look for each woman's challenges and responses. Review the *Report Card Assessment* (page 6) While each woman rates all As, identify the areas in which each woman excels.



Eileen M. Collins

**Eileen M. Collins** is a former astronaut and a retired U.S. Air Force colonel. She retired from the Air Force in Jan 2005 and from NASA in May 2006 after a 28-year distinguished career. A former military instructor and test pilot, Collins was the first female pilot and first female commander of a space shuttle.

Collins graduated from the Air Force Test Pilot School at Edwards Air Force Base, California, in 1990. She was selected by NASA and became an astronaut in July 1991. After tours at Kennedy Space Center (shuttle launch and landing) and Johnson Space Center (shuttle engineer and capsule communicator), she flew the space shuttle as the pilot in 1995 aboard Discovery.

She was also the pilot for Atlantis in 1997, where her crew docked with the Russian Space Station MIR. Collins became the first woman commander of a U.S. spacecraft with shuttle mission Columbia in 1999, the deployment of the Chandra X-Ray Observatory.

Collins' final space flight was as commander of Discovery in 2005, the "Return to Flight Mission" after the tragic loss of Columbia. She has logged more than 6,751 hours in 30 different types of aircraft and more than 872 hours in space as a veteran of four space flights.

Collins currently serves on several boards and advisory panels, is a professional speaker and an aerospace consultant. She is married with two children. She is also a member of the Air Force Association, Order of Daedalians, Women Military Aviators, Women in Aviation International, U.S. Space Foundation, the American Institute of Aeronautics and Astronautics, and the Ninety-Nines.



*Through the Glass Ceiling to the Stars* is an autobiography written by Collins.

Eileen Collins speaks about breaking barriers for women in space. Scan the barcode on the left or log on to

<https://www.youtube.com/watch?v=QyVzgPur-KA>





**Ellen Ochoa's** 30-year career at NASA culminated in serving as Director of NASA's Johnson Space Center from 2013 to 2018, leading the human space flight enterprise for the nation.

Ochoa became the first Latina to go to space when she served on a nine-day mission aboard the shuttle Discovery in 1993.

She has flown in space four times, logging nearly 1,000 hours, leading onboard scientific activities, operating the robotic arm, and serving as flight engineer during the launch, rendezvous, and entry phases of the mission.



*Ellen Ochoa*

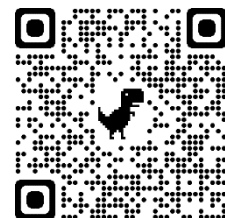
Ellen Ochoa is honored to have six schools named after her, several books written about her for the K-8 grades, and her own bilingual children's book about science. She has been profiled in textbooks and on websites geared toward encouraging females and minorities to pursue technical fields. Ochoa has shared her experiences in more than 300 presentations to a variety of audiences.

Ochoa is the recipient of many awards including NASA's highest award, the Distinguished Service Medal, the Presidential Distinguished Rank of the Senior Executive Service, the RNASA National Space Trophy, and eight honorary doctorates. She is in the Astronaut Hall of Fame, the Government Hall of Fame, the California Hall of Fame, and the International Air & Space Hall of Fame.

Before her astronaut and management career, Ochoa was a research engineer and holds three patents for optical systems. She earned a Ph.D. and M.S. in Electrical Engineering from Stanford, and a B.S. in Physics from San Diego State University.

Ellen Ochoa is a member of the National Academy of Engineering and a Fellow of the American Association for the Advancement of Science (AAAS), the American Institute of Aeronautics and Astronautics (AIAA), the National Academy of Inventors (NAI), and the Optical Society of America (OSA).

Here is a link to the video from Ellen Ochoa's induction into the Astronaut Hall of Fame: Click on the barcode or go to <https://www.youtube.com/watch?v=R8uonsBIAIq>



**Captain Elizabeth Somerville** attended the Massachusetts Institute of Technology, graduating in 1999 with a Bachelor of Science degree in Aeronautical and Astronautical Engineering and receiving her commission through the NROTC program. Following flight training in Pensacola, Florida, CAPT Somerville earned her Wings of Gold as a Naval Flight Officer in October of 2000 and reported to VAQ-129 for fleet replacement training in the EA-6B Prowler.



*CAPT Elizabeth M. Somerville*

In November of 2001, CAPT Somerville reported to the Shadowhawks of VAQ-141 for a Mediterranean deployment onboard USS THEODORE ROOSEVELT (CVN 71.) During this tour, she participated extensively in combat operations in Operation IRAQI FREEDOM as a Prowler Tactics Instructor.

After her tour with VAQ-141, she was accepted into the US Naval Test Pilot School (USNTPS) Cooperative Program and reported to the Air Force Institute of Technology (AFIT) in May of 2004 and then graduated as a member of USNTPS Class 130 with a Master of Science degree in Aeronautical Engineering.

After Test Pilot School graduation, CAPT Somerville joined the Dust Devils of VX-31 in China Lake, CA. Her flight test roles consisted of the test and evaluation of F/A-18D, F/A-18F, and EA-18G weapons and aircraft software. She also served as the EA-18G and HARM Project Officer, responsible for the initial flight test of the EA-18G Growler.

In July 2009, CAPT Somerville reported to VAQ-141 once again as a Department Head, joining them right as the squadron completed a transition from the EA-6B to the EA-18G. During this tour, she served as Maintenance Officer for the first CVN work-up cycle with the EA-18G and subsequently took over as Operations Officer for the upcoming maiden aircraft carrier deployment of both the EA-18G and the USS George H. W. Bush (CVN 77) in support of Operation ENDURING FREEDOM.

CAPT Somerville was selected to Command the “Dust Devils” of Air Test and Evaluation Squadron THREE ONE (VX-31) in China Lake, CA. She assumed the duties of Chief Test Pilot in January 2016 and Commanding Officer in July 2017. As the CO of VX-31, she led a team responsible for the developmental flight test for aircraft software development and weapons testing. Additionally, CAPT Somerville’s command was responsible for conducting Search and Rescue (SAR) for the southern California and high desert region. Following VX-31, she reported as the Chief Test Pilot of the VX-23 Salty Dogs in Patuxent River, MD in October of 2019 and became the Commanding Officer in July 2021.

Following VX-23 CAPT Somerville reported to her current position as Commander, Naval Test Wing Atlantic in August of 2022.

**Tammie Jo Shults** is a retired commercial airline captain, author, and former naval aviator. Known for being one of the first female fighter pilots to serve in the United States Navy, following active duty she became a pilot for Southwest Airlines and retired in 2020.



*Tammie Jo Shults*

On April 17, 2018, as captain of Southwest Airlines Flight 1380, she safely landed a Boeing 737 after an engine fan blade failed and flying debris damaged the left side of the fuselage and one side window; the window failed, causing the plane to decompress. One passenger was partially sucked through the damaged window and was later pronounced dead at the hospital. Shults made an emergency descent and landed the plane in Philadelphia. Her actions, calm demeanor, and competence were noted by Southwest Airlines and the grateful passengers.

Born Tammie Jo Bonnell, she grew up on a ranch near Tularosa, New Mexico. As a child, she watched jet aircraft from nearby Holloman Air Force Base practice maneuvers in the skies above her home. During her final year of high school, she investigated a career in flying but was told that there were no professional women pilots.

Shults attended MidAmerica Nazarene College where she earned degrees in biology and agribusiness. While at MidAmerica, she met a woman who had qualified as a pilot for the U. S. Air Force and decided to see if they would accept her application for service. After being turned down by the Air Force, she decided to try the Navy while doing graduate studies at Western New Mexico University.

Shults was accepted by the Navy for Aviation Officer Candidate School at Naval Air Station Pensacola. After receiving her commission in 1985, Shults attended flight training where she trained and qualified for her pilot's wings in the T-34.

Shults was stationed at Naval Air Station Chase Field as a flight instructor for the T-2 Buckeye. She later qualified in the A-7 Corsair II at Naval Air Station Lemoore. Next, she was in a Tactical Electronic Warfare Squadron at the Pacific Missile Test Center located at Point Mugu, California. Shults became one of the first female naval aviators to qualify in the F/A-18 Hornet.

During Operation Desert Storm, the Combat Exclusion Policy at that time prevented women from flying combat sorties, so Shults flew training missions as an instructor aggressor pilot for naval aviators. In 1995, Tammie Jo Shults was promoted to lieutenant commander and then transitioned to the Navy Reserve, where she flew the F/A-18 Hornet and EA-6B Prowler until August 2001.

After leaving the Navy, Shults flew part-time for Southwest Airlines so that she could also raise a family following her marriage to fellow naval aviator Dean Shults.

**Lourie DeBoer**, a native of Sacramento, California, DeBoer graduated from the University of Alaska, Fairbanks with a Bachelor of Science in Mechanical Engineering in 1995 and was commissioned as a U.S. Army Warrant Officer in 1997. She earned her wings in 1998 and was deployed to Germany as a UH-60 Blackhawk helicopter assault pilot, where she flew missions in Kosovo.



*Lourie DeBoer*

In the early 2000s, DeBoer flew anti-cartel missions in the Caribbean before being deployed to Iraq in Operation Iraqi Freedom II. She served two combat tours as pilot-in-command for the commanding generals and as the only dual-tracked instructor pilot and maintenance test pilot.

After a short stint in Korea, in 2006, DeBoer reported to the Maintenance Test Pilot Course (MTPC) at Fort Rucker, Alabama, and served as both a Maintenance Test Pilot Examiner and as an Instructor Pilot. In 2009, she was selected to be the UH-60 MTPC Track Chief, making her the first woman to hold this position for any MTPC airframe track in the U.S. Army. Before her departure in 2010, she completed the flight evaluations to become a Department of Evaluation and Standards (DES) Maintenance Examiner Designee.

In 2011, CW5 DeBoer reported to the 1<sup>st</sup> Cavalry Division in Fort Hood, Texas, and immediately deployed to Sharana, Afghanistan as the Aviation Maintenance Officer for Task Force Attack, 1-227<sup>th</sup> Aviation Regiment “First Attack”. After re-deployment she served as the Aviation Maintenance Officer for 3-227<sup>th</sup> Assault Helicopter Battalion “Spearhead” and became the 1<sup>st</sup> Cavalry Brigade Aviation Maintenance Officer (BAMO), making her the first woman to hold a BAMO position in the U.S. Army. She was later requested, by name, to deploy with the 1<sup>st</sup> Cavalry Division to RC-South Afghanistan.

In 2016, CW5 DeBoer completed her MBA in Project Management, was promoted to Chief Warrant Officer 5, and was selected to attend the U.S. Naval Test Pilot School. She graduated in 2018 as an Unrestricted Experimental Test Pilot and reported to the Aviation Flight Test Directorate (AFTD) in Redstone, Alabama to serve in the Army as a Test Pilot and Maintenance Examiner.

DeBoer’s decorations include two Bronze Stars, four Meritorious Service Medals, one Air Medal, five Army Commendation Medals, two Army Achievement Medals, two Meritorious Unit Commendations, the National Defense Service Medal, two Afghanistan Campaign Medals, the Iraq Campaign Medal, the Kosovo Campaign Medal, The Global War on Terrorism Expeditionary Medal, The Global War on Terrorism Service Medal, three NATO medals and the Korea Defense Medal.



**Commander Sarah “Killface” Abbott** is a 2003 graduate of the United States Naval Academy with a B.S. in Aerospace Engineering (Astronautics). She then attended Stanford University where she was a Research Assistant in the GPS Laboratory and earned a M.S. in Aeronautics and Astronautics in 2005. CDR Abbott was designated a Naval Aviator in August of 2007. After flight school, she received orders to the “Flying Eagles” NAS Lemoore for F/A-18E/F Superhornet training.



*Commander Sarah E. Abbott  
PMA-265 F/A-18E/F Deputy  
Program Manager*

CDR Abbott's first operational fleet tour was from 2008-2011 with the VFA-2 “Bounty Hunters” based at NAS Lemoore. She deployed to the Western Pacific with Carrier Air Wing 2 aboard USS ABRAHAM LINCOLN in support of Operations ENDURING FREEDOM and NEW DAWN. In August 2011, CDR Abbott was selected to attend USAF Test Pilot School as a Navy exchange student.

Upon completion of the experimental test pilot syllabus, CDR Abbott reported to the VX-31 “Dust Devils” at China Lake, CA. There she served as the Joint Mission Planning System and Communications, Navigation, and IFF (CNI) Project Officer, most notably bringing the Area Navigation (RNAV) and Mode 5 Combined Interrogator-Transponder capabilities to the fleet. In 2015, she checked in as a Department Head with the VFA-147 “Argonauts” located in Lemoore, CA, where she served as Safety Officer, Assistant OPS Officer, and Maintenance Officer. She deployed with the Carrier Air Wing 17 in 2017 aboard USS NIMITZ (CVN-68) in support of Operation INHERENT RESOLVE.

In 2017, CDR Abbott joined the NAVAIR team as an Aviation Engineering Duty Officer, providing technical guidance and tactical insight to eight diverse IPTs in the Direct and Time-Sensitive Strike Weapons portfolio. She participated most significantly in the development of the Advanced Anti-Radiation Guided Missile Extended Range ACAT 1 development program from System Requirements Review (SRR) to Engineering and Manufacturing Development (EMD) contract award and Critical Design Review. In 2020, she joined PMA-259 as the AIM-9X Deputy Program Manager, where she managed cost, schedule, and performance for the production, development, and sustainment of the AIM-9X family of Air-to-Air missiles. Following this role, she worked as the integration lead for a critical capability for the Air Wing of the Future. In October of 2022, CDR Abbott took over as the F/A-18 E/F Superhornet Deputy Program Manager at PMA-265.

CDR Abbott has over 1900 hours in 31 different aircraft and over 300 arrested landings. Her awards include a Meritorious Service Medal, two Strike/Flight Air Medals, two Navy Commendation Medals, and various campaign and unit awards. CDR Abbott resides in St Mary's County, MD with her husband, CDR Bryce “Pawnshop” Abbott, and their two children. Her husband is the Commanding Officer of VFA-83 stationed at NAS Oceana, VA.



*Vicky Benzing*

**Vicky Benzing** was born and raised in California. She is an accomplished pilot, skydiver, aerobatic performer, and air racer. With over 9500 hours of flight time and over 1300 parachute jumps, she currently holds an Airline Transport Pilot rating as well as a commercial rating in helicopters, seaplanes, and gliders.

Vicky still remembers her first flight in her uncle's airplane when she was just a small child. Inspired by that flight at a very young age, Vicky learned to fly in an antique airplane at a small airport on the California coast while working on her Ph.D. in Chemistry from UC Berkeley. After obtaining her doctorate, Vicky spent three

years as a post-doctoral fellow at the University of Oregon. During this time Vicky authored over a dozen scientific papers on a novel laser-based technique for analyzing embedded surfaces. Her first job led her to the semiconductor equipment industry. During her time in the high-tech world, she assumed positions of increasing responsibility including serving as Vice President of Technology for a \$2B corporation.

During her 24 years in the semiconductor industry, her passion for flying never waned, and her appetite for spins, loops, and rolls returned when she took an aerobatic flight with air show legend, Wayne Handley. Following that memorable flight, Vicky began aerobatic training in earnest. She competed in aerobatic contests throughout the US, working her way up through the many categories. In between contests, Vicky also began performing in local air shows. In 2012, Vicky fully retired from corporate life to focus solely on her flying interests. Today Vicky holds a surface-level aerobatic waiver and has flown air show performances at venues across the United States, including as an invited performer at the greatest airshow in the world, EAA AirVenture in Oshkosh.

In addition to aerobatics, Vicky got the racing bug when a friend invited her to the National Championship Air Races in Reno, NV. In her first year of racing, Vicky was chosen as "Rookie of the Year" after having won her first race ever, and in 2015 Vicky became the "Fastest Woman Racer" ever in the history of the Reno Air Races when she qualified an Aero Vodochody jet on the racecourse at 469.831 mph.

Vicky has also had the opportunity to work on several film, television, and other media projects. Vicky can be seen flying her beautiful Boeing Stearman in the documentary film "Mercury 13" which is currently airing on Netflix. Other film and television projects include episodes of "Ice Pilot" and "NCIS LA," and extensive stunt work in her Stearman for the short film "Niner Echo Foxtrot." And now open in Las Vegas NV is the immersive flight-ride experience, "FlyOver Las Vegas - The Real Wild West," where Vicky can be seen barrel-rolling her red Stearman across the sky.

Log on to YouTube and watch "Why I Fly – Vicky Benzing, Aerobatic Pilot & Air Racer". <https://www.youtube.com/watch?v=D3sOonkQ7I0>. It is amazing to see her plane twisting and turning in flight.



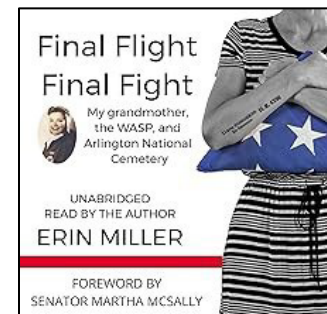
*Erin Miller*

**Erin Miller** is the proud granddaughter of Elaine Danforth Harmon, a member of the Women Airforce Service Pilots (WASP) during WWII. Her grandmother's last request was to be laid to rest at Arlington National Cemetery (ANC). After she died in April 2015, this request was denied by the US Army which runs ANC.

Erin led a successful grassroots, social media, and direct lobbying campaign to fight the decision, culminating in the passage of HR 4336 through Congress and the signing of the bill into law by the president of the United States.

The new law recognized the wartime service of the WASP for eligibility for inurnment at Arlington National Cemetery. Erin is the

author of two books in honor of her grandmother, "Final Flight Final Fight," which details the Arlington campaign and her life with her grandmother, while "What Grandma Did" is a children's book based on her grandmother's story with the WASP.



Erin is an attorney and author based in Maryland. She has a J.D. from the University of Maryland School of Law, a master's in international studies from the University of Leeds (UK), and a B.A. in History from the University of California, San Diego.

## Search and Find

- When do you think aviation began? Aviation began in the 18<sup>th</sup> century with the development of the hot-air balloon.
- Research the history of aviation from gliders to the Wright Brothers' first-powered airplanes to fixed wings to propellers to jets to spacecraft to the future. Create a timeline of aviation and present a report on different aviation-related events.

## Search and Find

- Who was Bessie Coleman?
- Why was a Commemorative Quarter released in her honor?

In February 2023, the U.S. Mint presented its new Bessie Colman Commemorative Quarter to the FAA. It has been called a gift from the past and a valuable symbol of an important chapter in U.S. aviation history. Bessie, who defied all odds with her tenacious drive and fearless personality, helped pave the way for future generations of aviators and women. Bessie Coleman was the first licensed African American and Native American female pilot, and the first African American to earn an international pilot's license.



## Early Women in Aviation

Well-mannered women were not supposed to engage in the daring or dangerous pursuit of aviation. Inspired by a story she was reporting, **Harriett Quimby**, a journalist by profession, became the first female licensed pilot in the United States in 1911. She immediately made several memorable exhibition flights, including a moonlit night flight over Staten Island, New York. The next year she became the first woman to fly solo across the English Channel, just three years after Louis Blériot first accomplished that feat. A few months later, as hundreds looked on during an aviation meet in Boston Harbor, she fell to her death out of a plane flying at 1,500 feet.

## Ninety-Nine Powerful Women

Imagine yourself in a room with 99 women who have all faced insurmountable odds to follow their individual dreams of flying. When the organization called the Ninety-Nines (99's) was founded on November 2, 1929, women pilots were struggling for an identity that would position them in the world with their male counterparts.

Twenty-six women gathered that day on Long Island at Curtiss Airport in Valley Stream, New York. The weather wasn't favorable and most of the women drove in or came by train. The first order of business was the selection of Neva Paris as temporary chairman, then the presentation of flowers to Viola Gentry, who was recovering from a crash following an endurance record attempt. The women conducted their business in a hangar above the din of a Curtiss Challenger engine running as the work of the mechanics proceeded around them. Tea was served from a toolbox wagon on wheels. Women pilots of the time were invited to assemble for mutual support, the advancement of aviation, and to create a central office to keep files on women in aviation. Louise Thaden was elected secretary. She worked to keep the group together as they struggled to establish themselves and to grow. Eligibility and purpose were quickly decided upon. Membership would be open to any woman with a pilot's license, and the purpose was "good fellowship, jobs, and a central office and files on women in aviation."

Choosing a name was a little harder. Some offerings were The Climbing Vines, Noisy Birdwomen, Homing Pigeons, and Gadflies. Amelia Earhart and Jean Davis Hoyt put a stop to the nonsense proposing the name be taken from the total of charter members. The group was momentarily the 86's, then the 97's, and finally the 99's. The name/number stopped at 99, but the membership thereafter grew worldwide.

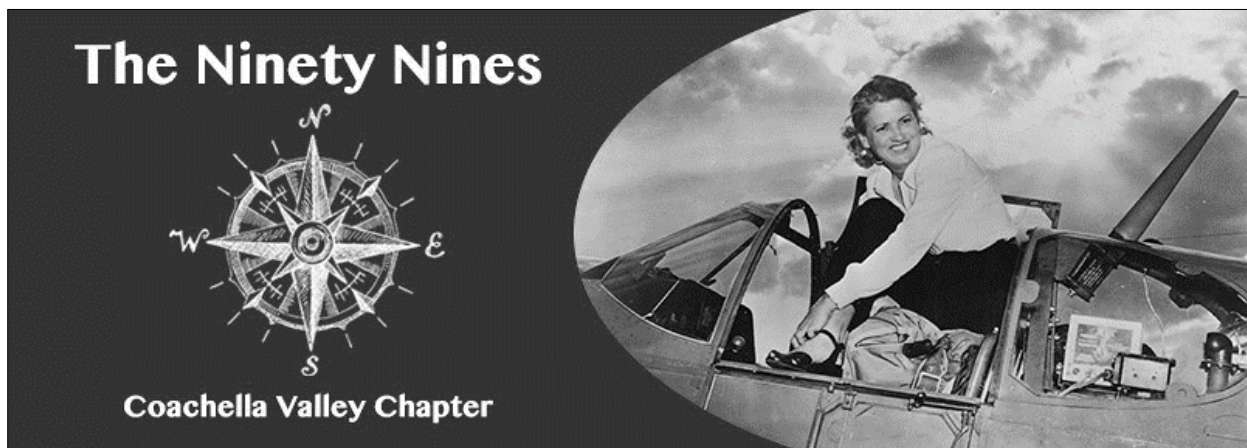
These first 99 women became charter members and included such luminaries as Bobbi Trout, Louise Thaden, and Amelia Earhart. In subsequent years astronauts and other women of note joined the ranks - including Indio, California's own Jackie Cochran.



*The First Organizational meeting of The Ninety-Nines in New York on November 2, 1929*

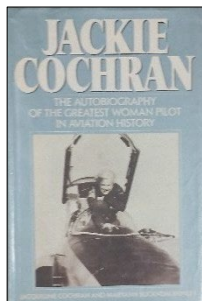
Today, the Ninety-Nines is an international organization of licensed women pilots from 44 countries with thousands of members throughout the world. The Coachella Valley has its own chapter which meets monthly.

Over the years, the organization's mission has changed as women became more prominent in the field of aviation. The Ninety-Nines are professional pilots for airlines, industry, and government. They are pilots who teach and pilots who fly for pleasure; they are pilots who are technicians and mechanics. But first and foremost, *they are women who love to fly.*



*The Coachella Valley Chapter of the Ninety-Nines was chartered on November 1, 1944. Organized by Jacqueline Cochran, shown above, who was the President of the International Organization of Women Pilots from 1941 to 1943.*

## Jacqueline Cochran



*Jackie Cochran - The Autobiography of the Greatest Woman Pilot in Aviation History*

The Coachella Valley's famous aviatrix is Jacqueline Cochran. Many books have been written about her, including her autobiography and a

biography by Rhonda Smith-Daugherty. Jacqueline was an innovator and a boundary-buster in the field of aviation.



## A Lone Woman Living in a Hangar - Eleanor Wagner

Eleanor Watterud Wagner was born November 29, 1914, in Portland, Oregon. After her family moved to Long Beach, California when she was 15, it didn't take long for her and her brother to discover Long Beach's airport, Daugherty Field. During their frequent trips to the airport, they were amid many history-making aviation people, including Gladys O'Donnell, one of the charter members of The Ninety-Nines. This was an era of thrill-seeking movie-makers and the airport was often filled with stunt pilots and Hollywood stars such as Buddy Rogers, Mary Pickford, and Douglas Fairbanks.

Eleanor's first airplane ride was in 1932 in a replica of the "Spirit of St. Louis." From that day on her head was in the clouds. She applied for a job in the communications department with TWA and became acquainted with Howard Hughes on the telephone. He would frequently call to make reservations for his friends and the movie starlets he was promoting at the time. Eleanor took a leave of absence from TWA during WWII to get enough qualifying flying hours to join the WASPS (Women Air Service Pilots). She trained as a WASP, but the program was canceled before her class graduated.

During the post-war time, the private aviation business boomed, and women were needed for the management of the burgeoning G.I. schools. Eleanor kept up her flying while learning about fixed-base operations and flight training techniques.

While working for Alamo Airlines, she borrowed a Cessna to fly to Palm Springs to visit some friends. This was March of 1950 and while parked overnight at the Palm Springs Airport, she felt the 'lure of the desert...the air was crisp and dry.'

Soon she was offered a job in the G.I. Flight Training Program at the Palm Springs Airport. It was nothing but runways, sagebrush, and barracks buildings left from the Air Transport Command's wartime operation. Working with two ex-WASPs, Eleanor became the coordinator of flight activities. On weekends, she took flights around the Coachella Valley to get acquainted with its pristine beauty and the untouched plants and wildlife. In 1951 she became the manager of the Thermal Airport.

Eleanor was a “lone” woman in the business with little operating money, living in a room in the hangar near her office where she was a fixed-base operator and airport manager. A fixed-base operator (FBO) is an organization granted the right by an airport to operate at the airport and provide aeronautical services such as fueling, hangaring, tie-down and parking, aircraft rental, aircraft maintenance, flight instruction, and similar services.

She worked towards a personal dream of starting a flight school. Monthly meetings were held in the hangar by an Air Force Reserve Unit and the local chapter of The Ninety-Nines. Eleanor also formed a Wing Scout Group for high school girls who learned about aviation and took indoctrination flights. They had hangar dances and flying events. There was so much camaraderie that she was never lonely.

The Cochran Ranch kept things buzzing. When Jacqueline Cochran and Floyd Odum came for the winter months, there were always people who flew to meet them on business or to play golf. Jimmy Doolittle, General Chuck Yeager, and General Carl Spatz flew in regularly, and movies were filmed there, including part of the *Sky King* series and “Hollywood Stunt Pilot.”

Most of Eleanor’s flying at Thermal was done for photographers, prospectors, fishermen, some of the ranchers looking for lost cattle or horses, or just general sightseeing trips around the Valley. She would take the door off her Aeronca plane, and Roy Gillman, a well-known photographer in Indio, would sit with his foot on the strut. To get a vertical shot, Eleanor would pull her airplane up into a stall and roll over quickly on the side so Roy could take his photographs straight down.



In addition to the general airport operations, Eleanor had to perform such jobs as gassing up the airplanes, sweeping the large hangar, keeping the stored airplanes all clean, and doing her own office work. After having lived a life full of adventure, Eleanor died in Palm Springs on November 6, 2011.

Note: This article is based on the reflections of Eleanor Wagner in her article “Coachella Valley Aviation After World War II,” printed in *The 1991 Periscope*, a publication of the Coachella Valley Historical Society.

### **Federal Aviation Administration (FAA)**

FAA stands for the Federal Aviation Administration, a federal government agency. Runway safety is one of the FAA’s highest priorities. This encompasses pilots, air traffic controllers, and airport vehicle drivers. The priorities of the FAA include safety (both on and off the ground), sustainability, equity, and job creation.

## Women in Aviation International (WAI)

Women in Aviation International is an international nonprofit organization, which provides networking, education, mentoring, and scholarship opportunities for women and men in careers in the aviation and aerospace industries. WAI was founded in 1990.



WAI aims to promote public understanding of notable women in the aviation industry. It is dedicated to the encouragement and advancement of women in all aviation and aerospace career fields and interests. In addition, WAI promotes public understanding of the accomplishments and contributions of women in aviation. This includes historic notables such as Amelia Earhart, Bessie Coleman, Eileen Collins, Jeana Yeager, Nicole Malachowski, and many others. They recognize these women through their WAI Pioneer Hall of Fame program.



The Blue Yonder Chapter of WAI meets in Riverside, California at the California Baptist University Flight Operations Center.

## What is the Environmental Impact of Powered Aircraft?

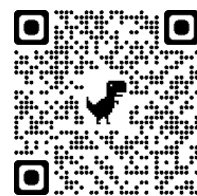
The operation of powered aircraft releases soot and other pollutants into the atmosphere. Greenhouse gases such as carbon dioxide are also produced. Aviation also creates noise pollution, mainly caused by taking off and landing and sonic booms from supersonic aircraft. What can be done to lessen the impact of aviation on the environment?

Research some current projects under development:

- The FAA is working to build a net-zero sustainable aviation system by 2050. How do they plan to do this?
- What are morphable wings and how could they be used to build more agile, fuel-efficient wings for aircraft?

## Who is Alice?

Would you like to fly an all-electric aircraft? Where do you plug it in? Can you recharge in flight? Eviations' Alice is built to make flight the sustainable, affordable, quiet solution to regional travel. Check out the specifications for commuter, executive, and cargo travel.



- Zero-emissions, all-electric technology
- Significantly quieter than combustion engine; reduced community noise and peaceful flight experience
- Less maintenance — means more time in revenue service and greater dispatch reliability.

## Light Jets

Light Jets are perfect for quick trips. They are flown mostly by those traveling routes that are less than 3 hours. Light jets are popular for 4-6 people traveling anywhere from 1-3 hours. Here are some research questions:

- What is a very light jet (VLJ)? By definition, the Very Light Jet category refers to private jets with a maximum take-off weight of 10,000 lbs. and less. These can be single- or twin-engine jets that tend to offer smaller cabin volumes seating between four and five passengers.
- What is the Honda Jet Echelon HA-420 and what derivatives are being developed?
- What is the Citation Ultra?
- What other companies are competitors in the light jet segment of aviation?
- What license do you need to fly a light jet? A private pilot certificate qualifies you to operate single-engine aircraft. While this works for most people, if you are looking to make aviation your career, you will likely want to consider getting a multi-engine rating.
- How much does it cost to own a light jet?

## Air Traffic Control

Air traffic control involves communication with aircraft to ensure they are sufficiently far enough apart horizontally and vertically.

- What are the qualifications to be an air traffic controller?
- How is radar used to see aircraft positions?
- What does it mean to fly under instrument flight rules?
- What are some of the largest, busiest airports in the United States? In the world?

In February 2023, nearly \$1B in Bipartisan Infrastructure Law Airport Funding was awarded to meet the surging air travel demand. Some of the improvements will include larger security checkpoints, more reliable and faster baggage systems, better roadways, and multimodal connections. Several grants will address the needs of aging traffic control towers.

## Planning a trip to Europe? If so, you will need to have an ETIAS?



The rules of travel to Europe have changed. Starting in mid-2025, some 1.4 billion people from over 60 visa-exempt countries are required to have travel authorization to enter most European countries. You need to know about ETIAS, the European Travel Information Authorization System.

- Who should apply for an ETIAS?
- What travel documents do you need to apply for ETIAS?



## Who Are You? Biometrics Authentication and Identification

A paper boarding pass or a boarding pass on your cellphone are things of the past. Airports are moving to biometric technology. Here are some questions to research:

- What does biometrics mean?
- What are the types of biometrics? (examples of biometric identifiers)
- Why biometrics?
- Who invented biometrics? (history of biometrics)
- What is biometrics used for?
- Is biometrics accurate and reliable in 2023?
- Why is biometrics controversial?

## Learn to Fly

Do you want to learn to fly? There is technically no age limit before you can begin taking flying lessons. The main restriction is you must be at least 16 years old before being allowed to take a solo flight and 17 years old before you can obtain a private pilot's license. Nothing is stopping you, and the younger you start the more competent an aviator you'll eventually become!



Cessna 150-152

What is the easiest plane to fly? The Cessna 150/152 is a good plane for beginner pilots. It is easy to handle, and it is comfortable and roomy.

The FAA requires 40 hours, but most people complete 60-75 hours of training. Depending on how many hours you spend in flight school training, you could spend \$8,000-\$12,000. That's because it costs \$100 an hour to rent a plane. Training typically takes six to 12 months with a minimum of 40 logged flying hours. Private pilots learn to maneuver a single-engine airplane without assistance from a copilot.

The following website has a detailed description of the steps for learning how to fly: *Seven Steps to Beginning to Fly*. Scan the barcode or log in to <https://leaviation.com/7-steps-to-flight-2/>

In your browser, type in "Flight Schools near Coachella Valley, California" for a list of local flight schools, or type in the name of your local community.



While on the 2nd floor of the Palm Springs Air Museum, test your skills with one of the flight simulators. Docents are available to help you learn the basics of flying your plane.



## Search and Find: Jobs in Aviation

- What types of jobs and programs are available in the aviation industry?

In March 2023, schools nationwide received \$10 million in FAA grants to develop the next generation of aviation professionals. The Aircraft Pilots Aviation Workforce Development Grant is designed to prepare students to become pilots, aerospace engineers, or drone operators. Part of the funding will also be used for the Aviation Maintenance Technical Workers Workforce Development Program. Research to find out all the types of jobs in the aviation industry.

## United States Space Force (USSF)

The U.S. Space Force is the space service branch of the U.S. Armed Forces, one of the eight U.S. uniformed services, and the world's only independent space force. It was founded on December 20, 2019. Their motto is *Semper Supra*, "Always above."

- What is the mission of the Space Force? Who can join the Space Force?
- What kinds of equipment do they have?
- In what types of engagements has the Air Force Space Command been involved?

## Space X

- What is Space X and who was the founder? What is unique about Space X?
- How is Space X different from NASA?
- Space X must submit data to the FAA at least seven days before an attempted launch. Why is this required? (Launch collision analysis data is used to assess the probability of the launch vehicle colliding with one of the thousands of tracked objects orbiting the Earth.)

## Objects Orbiting the Earth

There are three types of Earth orbits: high Earth orbit, medium Earth orbit, and low Earth orbit. Many weather satellites and some communication satellites tend to have a high Earth orbit. Navigation and specialty satellites tend to be in a medium Earth orbit. They are designed to monitor a particular region. Most scientific satellites, including NASA's Earth Observing System fleet, have a low Earth orbit.

- What types of objects are orbiting the Earth? Why is this information important?
- What impact do these objects have on our lives?
- What are the concerns about objects orbiting the Earth?
- What is space junk? Why is it important?

## International Space Station

The International Space Station (ISS), the largest modular space station in low Earth orbit, provides a unique perspective of our planet as the crew conducts scientific research in astrobiology, astronomy, meteorology, physics, and other fields. Members of the ISS crew also test spacecraft systems and equipment required for possible future long-duration missions to the Moon and Mars.

- Who is part of the crew currently serving on the International Space Station?
- How many women have served on the International Space Shuttle? As of March 2023, 72 women have flown in space. Of these, 44 have worked on the ISS. Research one of the ISS woman crew members. What was her mission?
- Would you want to serve on a crew at the ISS? Why or why not?

You can learn details about the ISS mission by following the commercial crew blog, @commercial\_crew on Twitter, and commercial crew on Facebook.

Learn more about ISS activities by following the space station, @space\_station, and @ISS\_Research on Twitter, as well as the ISS Facebook and ISS Instagram accounts.

- How often does it take the ISS to orbit the Earth/?
- How many times a day does it orbit the Earth?
- What disposal options have been planned for the end of the ISS?

How long has the ISS been in orbit? As of October 4, 2023, the ISS has been in orbit for 24 years, 11 months, 4 days, and it has been occupied for 22 years, 11 months, and 22 days. The ISS program evolved from the Space Station *Freedom*, a 1984 American proposal to construct a permanently crewed Earth-orbiting station. The ISS is the ninth space station inhabited by crews. It is the largest artificial object in the solar system.

## Balloons in the Sky

- What do we know so far about the Chinese spy balloon and other objects the U.S. shot down in early 2023?
- What have the recovery efforts revealed about the objects?

Some early reports suggested that the unidentified ariel objects might have been weather balloons or other high-altitude balloons used for scientific research.

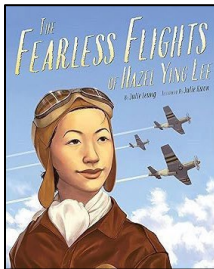
## UFOs or “Unidentified Flying Objects”

For many years, there have been serious concerns about advanced technology aircraft that we can't explain. The Navy has officially acknowledged 11 near misses with Unidentified Ariel Phenomena (UAP) that required evasive action and triggered mandatory safety reports between 2004 and 2021.

The UAPs accelerated up to a speed of Mach 1, the speed of sound. They could hold their position, appearing motionless. They had no visible means of lift like aircraft with wings, flaps, or engines.

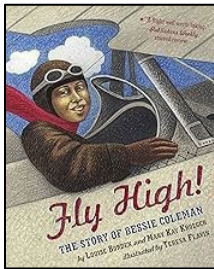
- What is the history of citizens reporting UAP sightings?
- What is being done to investigate highly advanced objects, especially those in highly restricted airspace over military bases?

### Children's Literature Books about Women Aviators



*The Fearless Flights of Hazel Ying Lee* by Julie Leung, Illustrated by Julie Kwon. 2021. Little, Brown Books for Young Readers. Preschool to Grade 3.

This inspiring picture book biography is about Hazel Ying Lee, the Chinese American woman who joined the Women's Airforce Service Pilots during World War II. This is an excellent narrative for discussing an important woman who faced issues of racism and sexism. After she died in a plane crash, her family struggled to find a proper burial due to their race. The Horn Book review states, "Leung's poetic text vividly conveys Lee's fascination with and passion for flying and breaking boundaries. Lee's book won the Septima Clark Women in Literature Award, 2022 which recognizes notable, high-quality trade books that center on the challenges and accomplishments of women.



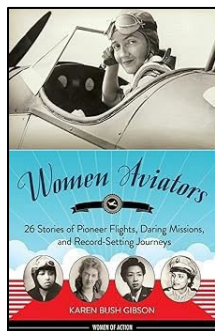
*Fly High! The Story of Bessie Coleman* by Louise Borden and Mary Kay Kroeger. Illustrated by Teresa Flavin. 2001. Aladdin Paperbacks.

When Bessie Coleman was a child, she wanted to be in school -- not in the cotton fields of Texas, helping her family earn money. So, Bessie did everything she could to learn under the most challenging of circumstances. This was just the beginning of a life of hard work and dedication that paid off: Bessie became the first African-American to earn a pilot's license.

*Aviation: Cool Women Who Fly* by Carmella Van Vleet, Lena Chandhok, illustrator. Nomad Press. 2016. 112 pages. Ages 9 – 12.

Have you ever looked up into the sky, seen an airplane, and wondered where it was going and who was flying it? Aviation is the study of the design, development, production, and operation of aircraft. In *Aviation: Cool Women Who Fly*, children meet three successful women working in aviation. Meg Godlewski is a master certified flight instructor, Kristin Wolfe is a pilot in the Air Force, and Taylor McConnell is a Production Support Engineer.

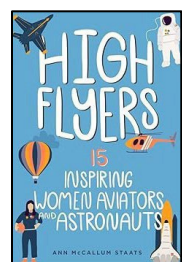
## Books for Teens



*Women Aviators: 26 Stories of Pioneer Flights, Daring Missions, and Record-Setting* by Karen Gibson (Part of the series Women of Action) Age 12 and up. Chicago Review Press; Reprint edition. Winner: A Notable Social Studies Trade Books for Young People.

From the very first days of aviation, women were there. Katherine Wright, though not a pilot, helped her brothers Orville and Wilbur so much that some called her the “Third Wright Brother.” Pioneers such as Baroness Raymonde de Laroche of France ignored those who ignorantly claimed that only men possessed the physical strength or the mental capacity to pilot an airplane, and in 1910 became the first woman awarded a license to fly. A year later, Harriet Quimby was the first woman to earn a pilot’s license in the United States and in 1912 flew across the English Channel—another first.

Author Karen Bush Gibson profiles 26 women aviators who sought out and met challenges both in the sky and on the ground, where some still questioned their abilities. Read about barnstormers like Bessie Coleman and racers like Louise Thaden, who bested Amelia Earhart and Pancho Barnes to win the 1929 Women’s Air Derby, sometimes called the Powder Puff Derby. Learn about Jacqueline Cochran who, during World War II, organized and trained the Women Airforce Service Pilots—the WASPs—to serve their country by ferrying airplanes from factories to the front lines and pulling target planes during anti-aircraft artillery training. And see how female pilots today continue to achieve and serve while celebrating their love of flight.

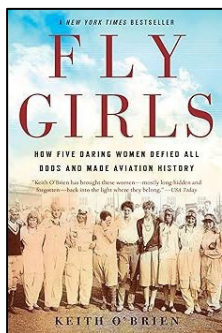


*High Flyers: 15 Inspiring Women Aviators and Astronauts* by Ann McCallum Staats. 2022. (Women of Power series) Chicago Review Press. 224 pages. Ages 12 to 18.

These diverse high-flyers are dreamers and doers who believed, despite the odds, that soaring is possible. Soar beside Black Hawk helicopter pilot turned politician Tammy Duckworth, hot air balloonist Edgora McEwan, or medevac pilot Dede Murawsky. Higher up, meet commercial and military aviators such as the Coast Guard’s Ronaqua Russell, the first African American female to receive the prestigious Air Medal for her rescue efforts during Hurricane Harvey. Ride along with Tammie Jo Shults, whose story includes a harrowing catastrophic engine failure while in command of 148 people aboard Southwest’s Flight 1380. Others share their experiences in military high-performance jets, the Stratotanker, or while flying for the Blue Angels.

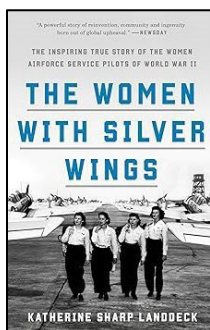
Reaching past the bounds of Earth are astronauts who have launched in the cramped Russian rocket, the *Soyuz*, orbited Earth while conducting critical science experiments, or lived aboard the International Space Station. In all cases, the women in this book faced obstacles. Throughout their rise to incredible accomplishment, these courageous go-getters persevered and endured, *insisting* on success. Ultimately, each succeeded on her path to flight.

## Young Adult Books



*Fly Girls* by Keith O'Brien. Eamon Dolan Books Paper; Reprint edition 2019. 325 pages. A *NEW YORK TIMES* Best Seller. Between the world wars, no sport was more popular, or more dangerous, than airplane racing. While male pilots were lauded as heroes, the few women who dared to fly were more often ridiculed—until a cadre of women pilots banded together to break through the entrenched prejudice.

*Fly Girls* weaves together the stories of five remarkable women: Florence Klingensmith, a high school dropout from Fargo, North Dakota; Ruth Elder, an Alabama divorcée; Amelia Earhart, the most famous, but not necessarily the most skilled; Ruth Nichols, who chafed at her blue blood family's expectations; and Louise Thaden, the young mother of two who got her start selling coal in Wichita. Together, they fought for the chance to fly and race airplanes—and in 1936, one of them would triumph, beating the men in the toughest air race of them all.



*The Women with Silver Wings: The Inspiring True Story of the Women Airforce Service Pilots of World War II* by Katherine Sharp Landdeck. Reprint edition 2021. Crown. 464 pages.

When the Japanese attacked Pearl Harbor in December 1941, Cornelia Fort was already in the air. At twenty-two, Fort had escaped Nashville's debutante scene for a fresh start as a flight instructor in Hawaii. She and her student were in the middle of their lesson when the bombs began to fall, and they barely made it back to the ground that morning.

When the U.S. Army Air Forces put out a call for women pilots to aid the war effort, Fort was one of the first to respond. She became one of just over 1,100 women from across the nation to make it through the Army's rigorous selection process and earn her silver wings.

The Women Airforce Service Pilots (WASP) gave women like Fort a chance to serve their country—and to prove that women aviators were just as skilled as men. While not authorized to serve in combat, the WASP helped train male pilots for service abroad, and ferried bombers and pursuits across the country. Thirty-eight WASP would not survive the war. At the end of the war, the program was disbanded. But the bonds they'd forged never failed, and over the next few decades they came together to fight for recognition as the military veterans they were—and for their place in history.

# Inspiration One

Ronald M. Auen Learning Center First Flight Experience  
Palm Springs Air Museum

**Who** can participate? Local youth 12 to 17 years of age with a serious interest in becoming a pilot or being in a program on a flight track.

**When** Five individuals will be selected in the active program months. There is a high demand to participate in the program and space is limited.

## The Experience

- Each aspiring pilot will receive an introduction to the Palm Springs Air Museum and receive a *First Flight* shirt and flight log.
- Next, participants will be introduced to the Cessna 182 Skylane, Inspiration One, and the pilot.
- Then they will board, taxi, and take off for an approximately 30-minute flight next to the pilot.
- After landing, participants will receive a certificate commemorating their flight.



Cessna 182 Skylane



## **We invite you to visit us at the Palm Springs Air Museum.**

[palmspringsairmuseum.org](http://palmspringsairmuseum.org)

The Palm Springs Air Museum is a living history museum dedicated to educating the public about Air Power's role in preserving American liberties and way of life.

Opened I 1996, the Palm Springs Air Museum is located at 745 North Gene Autry Trail, Palm Springs, California 92262.

The Museum has a growing collection of vintage aircraft in a 91,000-square-foot facility. The aircraft collection contains planes in the permanent collection and those on loan. A catalog, *Aircraft and Displays*, is sold at the Gift Shop. It contains a complete description and history of most aircraft on display. Warbird Ride Certificates are available for multiple aircraft. Warbird Ride Certificates are available for multiple aircraft. Come fly with us and live the dream!

If you cannot visit us in person, you can view on the website most aircraft in our collection. You can also visit our Gift Shop online and purchase a wide range of aircraft items, including clothing, toys, books for youngsters, and much more!

Click on the EDUCATION section of the website to find out about our books for kids, parents, grandparents, and teachers.

The following books are sold on Amazon.com.

### ***A Beginner's Guide for Future Aviators***

Available at [www.amazon.com](http://www.amazon.com)

These project-based activities help airplane enthusiasts, young and old, learn how to “read” an airplane, how an airplane flies, and the key parts of an airplane. It makes a perfect gift for a future aviator in your family, a friend, or an educator looking for STEM-based activities.

From props to jets, learn about planes from World War II, Korea, Vietnam, and beyond. Compare the miles per hour, the range, and the ceiling of different aircraft. Build your paper gliders and hold a contest to see which model flies the best. Play a game of Naval Attack, learn about nose art, military dog tags, TOP GUN, and Walt Disney's “Mickey Mouse One” Gulfstream. Finally, design your own modern propellor fighter plane or a supersonic aircraft of the future.

You don't have to be at the Palm Springs Air Museum to enjoy the information about the many featured aircraft, but if you can visit the museum, you will be glad you did.

### **ABOUT THE AUTHOR**

Dr. Priscilla Porter is the Co-Director of the Porter History-Social Science Resource Center at the Palm Desert Campus of California State University San Bernardino. A former elementary school teacher, she is the author of many popular curriculum guides for teachers.



## ***World War II – A Curriculum Guide for Secondary Teachers***

Available at [www.amazon.com](http://www.amazon.com)

This is a perfect gift for educators, high school and college students, or history buffs. The project-based activities provide lessons that engage students with the events of World War II. Follow the heroic men and women who fought the war and those who made sacrifices on the Homefront. Study the roles and contributions of unique American groups such as the Tuskegee Airmen, the 442nd Regimental Combat Team, and the Navajo Code Talkers.

Explain the events following World War I that led to World War II and analyze the cause-and-effect relationships. Explore the Constitution's provisions regarding the nation's entry into a war. Examine the reasons for the American declaration of war on December 8, 1941. Analyze historically significant speeches to find the rhetorical devices and features as you listen to Roosevelt's Fireside Chats. Websites and barcodes take you quickly to primary source documents so you can personally be a part of the turbulent war years.

Analyze art elements and principles of design as you derive meaning from the poster art of World War II. Work in a group to research the war's impact on American industry and share the results.

Explain the basic Allied military strategy in the European and Pacific Theaters as you draw upon data from historical maps. Appraise the importance of air and sea power in major war turning points. Describe significant developments in aviation technology, examine how aircraft were modified to respond to combat, and explain the significance of air power in winning the war.

Discuss the Selective Service's mission and the armed services' rapid growth during World War II. Contrast this with the armed forces personnel on active duty today. Conduct an oral history of an armed forces member and integrate quotations into a unique project that shares the results.

Examine the qualities of a good leader. Identify American leaders, past and present, who exemplify these qualities. Explain the importance of critical strategic decisions made at the War Conferences. Evaluate the Allied strategy of unconditional surrender. Analyze the decision to use atomic weapons within its historical context.

You don't have to be at the Palm Springs Air Museum to complete the lessons in this guide, but if you can visit the museum, you will be glad you did.

### **ABOUT THE AUTHOR**

Dr. Priscilla Porter is the Co-Director of the Porter History-Social Science Resource Center at the Palm Desert Campus of California State University San Bernardino.

# **Hangars of the Palm Springs Air Museum**

## **PACIFIC (NAVY) HANGAR**

This Hangar includes exhibits and aircraft used by the Navy in the Pacific Theater during World War II. Highlights include the Pearl Harbor diorama narrated by NBC journalist and author Tom Brokaw, the Grumman “cats”; the Avenger, Corsair, Dauntless, and Invader. The PBY Catalina Flying Boat is usually on the Tarmac. Ship models, uniforms, and weapon display cabinets complement the large wall Pacific Map and the aviation art by Stan Stokes and Robert Taylor.

## **EUROPEAN (ARMY) HANGAR**

This Hangar features aircraft used by the Army in the European Theater during World War II. Highlights of this hangar include the B-25 Mitchell Bomber, P-47 Thunderbolt, P40 Warhawk, the flying Red Tail P-51 Mustang, P-63 King Cobra, and Spitfire. Other highlights include the Tuskegee Airmen mural, the large wall European Map, the Women in Aviation exhibit, and the Norman Sirota Gliders.

## **B-17 HANGAR**

This Hangar includes exhibits regarding the B-17, including housing our B-17G “Miss Angela,” which visitors can tour. Highlights also include the Berger Youth Exploration Center with fun, interactive activities for young people, F-16 Flight Simulator, and the Gen. Ken Miles Aviation Science Center. Visitors can grab a bite at the Victory Canteen.

## **KOREA & VIETNAM HANGAR**

This Hangar includes exhibits and aircraft used during the Korean and Vietnam wars. Highlights include the John Nocita Korean War Remembrance Wall, Edward and Mona Sher POW Bracelet exhibit, Presidential Experience Display (including Ken Marts’ “Presidents Who Served” display), and the Frederick Noble Engine Display. This hangar hosts our Saturday Programs and is the primary hangar used for events.

## **F-117A HANGAR**

This state-of-the-art Hangar houses our brand-new F-117A Nighthawk “Black Devil.” The hangar also houses numerous displays centered around the F-117A and the War on Terror, including the “History of the Skunkworks” mural by Stan Stokes, Global War on Terror (GWOT) Timeline, GWOT memorial brick display, “Brotherhood of Stealth” display, and the F-117A cutaway.

# ***Quest for Excellence: Women in Aviation***

## **Acknowledgments**

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