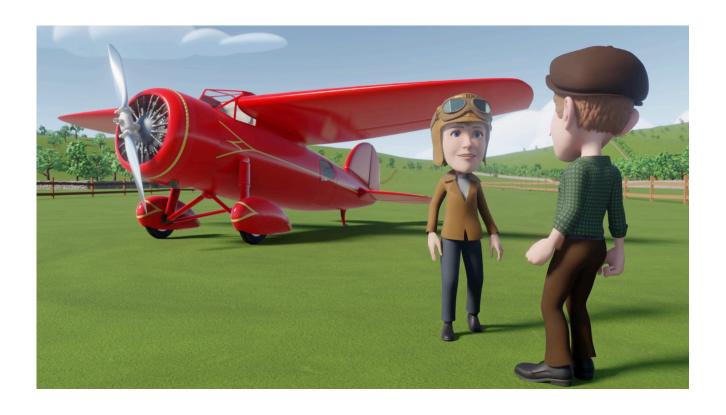
DISCOVER AMERICA

Teacher Guide



Flying into History: The Legacy of Amelia Earhart



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Key Themes

- Exploration and Adventure
- Legacy and Impact
- Overcoming Obstacles
- Pioneering Spirit
- The Journey to Flight
- Women in Aviation

Core Values

- Community
- Life
- Liberty



Learning Objectives

Students will be able to

- Describe the historical context of aviation in the early 20th century, including societal attitudes towards women in aviation.
- Explain the basic principles of flight, including lift, thrust, drag, and gravity, and how these principles apply to Amelia Earhart's aircraft.
- Analyze the challenges faced by Amelia Earhart in her journey to becoming a pilot, including personal and societal obstacles.
- Discuss Amelia Earhart's contributions to aviation and women's rights, including her advocacy work and the founding of the Ninety-Nines.
- Evaluate the various theories surrounding Amelia Earhart's disappearance, using critical thinking to assess the validity of each theory.
- Conduct research on aviation history, utilizing both print and digital resources to gather information.
- Reflect on how the achievements of Amelia Earhart have influenced modern aviation and inspired future generations.

Key Terms

- 0 1 **altitude:** how high something is above the ground or sea level.
- 0 2 **aviation:** the field of designing, building, and flying airplanes and other flying vehicles, like helicopters.
- 0 3 **capable:** having the skills or ability to do something well.
- 0 4 cargo: the goods or items carried by a vehicle, like a plane or a ship.
- O 5 **cargo planes:** planes, such as the Boeing 747 Freighter, that are made to transport goods instead of people.
- O 6 **commercial airliners:** large planes that carry passengers over long distances, like the Boeing 737.
- 0 7 **contribution:** the act of giving or adding something to enhance a situation or support a cause.
- 08 **exhilarating:** something that makes you feel very excited and full of energy.
- 0 9 **gliders:** unpowered planes that rely on air currents to fly.
- 10 **helicopter:** a type of aircraft that can take off and land vertically, making them useful for medical emergencies and law enforcement.
- **milestone:** an important event or achievement that represents a significant progression in a journey.
- military aircraft: include fighter jets, bombers, and transport planes, used by armed forces for various missions.

Key Terms

- obstacle: something that makes it difficult to do something or get where you want to go.
- 14 **perseverance:** not giving up, even when things are tough.
- 15 **private jets:** aircraft that offer luxury and flexibility for individuals or small groups.
- 16 **Red Cross:** a group that helps people during emergencies and disasters.
- 17 **responsibility:** refers to being trustworthy and fulfilling one's obligations.
- sacrifice: the act of giving up something important in order to assist others or accomplish a goal.
- sensation: a strong feeling or excitement that people experience
- 20 **stenographer:** someone who writes down what people say.
- 21 **transformation:** a significant change or shift from one state to another.

TELL Students

Today, you are going to solve a riddle to reveal our learning topic. Here is the riddle:

I soared through skies, a daring quest,

A trailblazer who would not rest.

In 1928, I took my flight,

With engines roaring, I reached new heights.

I crossed the ocean, my name made known,

A symbol of courage, my spirit has grown.

Though I flew with others, my heart longed to steer,

To show the world that I had no fear.

Who am I, with dreams to defy,

The first woman in history to touch the sky?

ASK Students

Who is this riddle about?

TELL Students

That is right! This riddle is about Amelia Earhart.

ASK Students

What do you know about Amelia Earhart? Please turn to your neighbor and discuss everything you know about Amelia. [Give students three minutes to discuss. Then, regroup as a class and write their answers on a whiteboard.]

TELL Students

Amelia Earhart was born on July 24, 1897, in Atchison, Kansas, just six years before Wilbur and Orville Wright flew their first powered airplane in North Carolina. [Reference Wright Brothers Image.]

ASK Students

What do you remember about Wilbur and Orville Wright?

TELL Students @ P

The Wright brothers, Wilbur and Orville, were two amazing inventors who changed the world by building the first successful powered airplane! They were born in the late 1800s and grew up in a family that encouraged their curiosity and love for machines. They worked hard and conducted many experiments to figure out how to fly. Finally, on December 17, 1903, in North Carolina, they made history with their plane, the Wright Flyer, flying for 12 seconds! [Reference Wright Flyer Image.] This incredible achievement opened the door to aviation and inspired many others, including Amelia Earhart. Aviation is the field of designing, building, and flying airplanes and other flying vehicles, like helicopters. It includes everything related to flight, from the technology that makes planes fly to the pilots who operate them. When we talk about aviation, we are talking about how people travel through the air, just like Amelia did! As a little girl, Amelia loved spending time outdoors. She climbed trees, went sledding, hunted, and rode imaginary horses. [Reference Young Amelia Image.] When she was 11 years old, she went to the lowa State Fair with her parents and saw her first airplane. To her surprise, she wasn't impressed at all! She remembered thinking, "It was just a rusty thing made of wire and wood, and it didn't look interesting at all."

ASK Students

Why do you think Amelia wasn't impressed by the airplane she saw at the fair? What do you think she expected it to look like?

TELL Students

It is important to recognize that airplanes were a relatively recent innovation during Amelia's time. She witnessed her first airplane just five years after the Wright brothers achieved their groundbreaking flight in 1903. At that point in aviation history, aircraft were still in the experimental stages, and the large commercial planes we are familiar with today had not yet been developed. [Reference Progression of Planes Image.] Most aircraft were designed to carry only the pilot, highlighting the significant evolution in aviation technology that has occurred since then.

ASK Students

What types of aircraft have you seen?

TELL Students

There are many types of aircraft, each designed for different purposes. [Reference Commercial Airliner Image.] Commercial airliners are large planes that carry passengers over long distances, like the Boeing 737. [Reference Boeing 747 Image.] Cargo planes, such as the Boeing 747 Freighter, are made to transport goods instead of people. Cargo refers to the goods or items carried by a vehicle, like a plane or a ship. [Reference Private Jet Image.] For private travel, private jets offer luxury and flexibility for individuals or small groups. [Reference Military Aircraft Image.] Military aircraft include fighter jets, bombers, and transport planes, used by armed forces for various missions. [Reference Helicopter Image.] Helicopters can take off and land vertically, making them useful for medical emergencies and law enforcement. [Reference Glider Image.] Gliders are unpowered planes that rely on air currents to fly, while seaplanes can land on water. Each type of aircraft has its own special features that help it serve its specific purpose! There is a significant transformation from the early airplanes that only had room for the pilot to the planes we see today. A transformation refers to a significant change or shift from one state to another.

ASK Students

What are some of the key differences between commercial airliners and gliders, and how do these differences affect their design and function?

TELL Students

There are numerous types of aircraft, each specifically designed for various purposes. Amelia Earhart played a pivotal role in the transformation of aviation, working tirelessly to become a pilot and breaking barriers for women in the field. [Reference Amelia Image.] Through her actions, Amelia demonstrated that women could achieve remarkable feats, including flying planes and embarking on thrilling adventures. Her courage and determination inspired countless individuals to chase their dreams, whether in aviation or other pursuits. Thanks to her contributions, the world of flying has become both safer and more accessible for everyone today! Contribution is defined as the act of giving or adding something to enhance a situation or support a cause. This could involve sharing your toys with friends, assisting someone with their homework, or collaborating on a project.

TELL Students (continued)

Every contribution, no matter how small, can create a meaningful impact! Let's watch another episode of Star Spangled Adventures to learn more about Amelia!

WATCHO

Star Spangled Adventures Cartoon Ep. 36: Amelia Earhart





TELL Students @

Do you enjoy playing outside with friends, curling up with a good book, or creating a new piece of art for your room? Perhaps you love exploring scientific discoveries in school, learning to play a new song on an instrument, or perfecting a delicious dessert recipe. It is common to have many interests and hobbies that you are passionate about! [Reference Amelia Image.] Amelia Earhart had a wide range of interests and achievements throughout her life. She wrote books, designed her own fashion line, created lightweight suitcases, and even served as a visiting professor at Purdue University. But she is best remembered for one incredible passion: flying.

ASK Students

What do you think it says about a person when they have many different interests, like Amelia Earhart did, and how might exploring those interests help you in the future?

TELL Students @ P

Having a variety of interests can show that a person is curious and eager to learn about different things. It can help you develop new skills, meet different people, and find your true passions. Exploring these interests can lead to opportunities you might not have considered before, just like how Amelia Earhart discovered her love for flying. [Reference Amelia Image.] Amelia was an amazing student who excelled in her classes, especially in science. In 1916, she graduated from Hyde Park High School in Chicago and then attended a finishing school called the Ogontz School near Philadelphia. However, she chose to leave school before graduating to serve as a nurse's aide with the Red Cross, caring for wounded soldiers from World War I at a military hospital in Toronto. The Red Cross is an organization that helps people during emergencies and disasters. They provide essential services like food, shelter, and medical care to those in need, and they also teach people how to stay safe and be prepared for emergencies, such as how to give first aid. [Reference Red Cross Symbol.] Their symbol, a red cross on a white background, represents their commitment to helping and caring for others.

ASK Students

What does Amelia's decision to leave school and join the Red Cross to help wounded soldiers tell us about her character? What qualities do you think she had that made her want to help others in need?

TELL Students @ P

Amelia's choice to leave school and join the Red Cross illustrates her kindness, bravery, and selflessness. She sought to assist those who were suffering, highlighting her strong character and sense of responsibility. **Responsibility** refers to being trustworthy and fulfilling one's obligations. It involves taking care of tasks, such as completing homework, helping at home, or being a supportive friend. When you are responsible, others can depend on you to do things correctly and keep your commitments! While working with the Red Cross, an extraordinary event occurred that would alter the course of her life. Amelia attended an airshow where a stunt pilot flew his plane right past her. Instead of feeling fear, she was captivated! [Reference Stunt Show Image.] Amelia later recalled thinking, "I am sure he said to himself, 'watch me make them scamper.'" This moment left a lasting impression on her. In hindsight, she reflected, "I didn't understand it at the time, but I believe that little red airplane said something to me as it swished by." It was a sign that flying was destined to be an integral part of her future!

ASK Students

How did Amelia feel when she saw the stunt pilot fly by? How do you think that moment inspired her to pursue her dream of flying?

TELL Students

When Amelia witnessed the stunt pilot soaring through the air, she experienced a powerful blend of excitement and awe. The sight of the plane darting across the sky ignited a spark within her, revealing the incredible possibilities of flight and motivating her to pursue her dream of becoming a pilot. Following this experience, Amelia enrolled in a pre-med program at Columbia University for a year. However, she ultimately chose to relocate to Los Angeles to be closer to her family. [Reference Amelia and Family Image.] On December 28, 1920, she attended an airshow with her father, where she had her first opportunity to ride in an airplane. Reflecting on that moment, she later stated, "By the time I had gotten two or three hundred feet off the ground, I knew I had to fly." That experience changed the direction of her life!

ASK Students

What do you think it was about that first airplane ride that made Amelia feel like she "had to fly"? How do you think her excitement in that moment influenced her choices afterward?

TELL Students @ P

That first airplane ride filled Amelia with an incredible sense of freedom and adventure. Being up in the air, seeing the world from above felt exhilarating! **Exhilarating** means something that makes you feel very excited and full of energy! It is the kind of feeling you get when you do something fun and thrilling, like riding a roller coaster or winning a game. It can make your heart race and bring a big smile to your face! That thrill likely made Amelia realize how much she loved flying and how it could be a part of her life. It inspired her to take action and pursue her dream more seriously. To follow her dream of flying, Amelia took on several jobs to earn money. [Reference Amelia's Jobs Image.] She worked as a truck driver, a photographer, and a stenographer, which is someone who writes down what people say. In 1921, she took her very first flying lesson with a pilot named Neta Snook. Amelia also bought her first airplane, a bright yellow Kinner Airster that she named the "Canary." [Reference Canary Image.] She was determined to make her dream a reality!

ASK Students

Why did Amelia take on so many different jobs to earn money for her flying lessons? How did her determination help her achieve her dreams?

TELL Students A

Amelia's motivation to pursue various jobs stemmed from her deep passion for flying and her unwavering determination to succeed. She understood that achieving her dream required hard work and significant sacrifices. **Sacrifice** refers to the act of giving up something important in order to assist others or accomplish a goal. For instance, when someone foregoes their free time to support a friend, that shows sacrifice. It can also involve giving up something cherished to improve someone else's situation. Such acts illustrate your concern for others and your commitment to helping! Amelia's sacrifices, along with her dedication and focus, empowered her to navigate challenges and remain steadfast on her path to becoming a pilot.

ASK Students

What are some specific sacrifices Amelia Earhart made in her pursuit of becoming a pilot, and how do you think those sacrifices shaped her journey?

TELL Students

Amelia Earhart made many sacrifices on her path to becoming a pilot, including taking on various jobs to fund her flying lessons and balancing her work with her dedication to aviation. For example, she worked as a truck driver and a photographer, often sacrificing her free time to save money for flying. These sacrifices shaped her journey by instilling in her a strong work ethic and the ability to keep going despite challenges, qualities that helped her overcome challenges in her professional and personal life. As Amelia's aviation career began to soar, she faced a significant personal challenge: her parents divorced in 1924. Following this, she relocated with her mother and sister to the East Coast, where she worked as a teacher and social worker. Despite these changes, her passion for flying never waned, and she continued to participate in air shows.

ASK Students

What do you think were some of the biggest challenges Amelia faced while balancing her various jobs and her passion for flying, especially after her parents' divorce?

TELL Students

Amelia faced significant challenges while juggling her jobs and her passion for flying, particularly after her parents' divorce. The need to support herself and her family often required long hours and hard work, leaving her with limited free time to pursue her dream. Yet, her unwavering dedication and strong work ethic propelled her forward, allowing her to stay focused on her goal of becoming a pilot. This determination not only helped her navigate personal hardships but also laid the foundation for her future advocacy in aviation. In 1927, Amelia became a leading advocate for aviation and women's participation in the field as a member of the Boston Chapter of the National Aeronautic Association. [Reference NAA Image.] While setting numerous aviation records, she also dedicated herself to advocacy. Throughout her life, Amelia lectured on aviation and career opportunities for women across the United States. She made history as the first woman Vice President of the National Aeronautic Association, authored articles for magazines, and cofounded the Ninety-Nines, an organization aimed at supporting women pilots.

ASK Students

What qualities do you think helped Amelia overcome the challenges she faced while balancing her jobs and her passion for flying?

TELL Students @ P

Amelia's dedication and strong work ethic were crucial in helping her overcome challenges. Despite the long hours and responsibilities she faced after her parents' divorce, she remained focused on her dream of flying. This determination not only fueled her pursuit of aviation but also prepared her for the significant milestones ahead. Remarkably, just one year after she began flying, Amelia set an unofficial altitude record for female pilots, reaching an impressive height of 14,000 feet in her airplane, the Canary. **Altitude** refers to how high an object is positioned above the ground or sea level. **[Reference Altitude Image.]** For example, while flying in an airplane, altitude indicates how many feet or meters you are above the earth's surface—higher altitudes mean greater heights! In 1923, Amelia made history by becoming the 16th woman ever to earn an international pilot's license from the Fédération Aéronautique Internationale, the governing body for aviation sports. Amelia was well on her way to achieving greatness!

ASK Students

What do you think were some of the biggest challenges Amelia faced on her journey to becoming a pilot, and how do you think her determination helped her overcome them?

TELL Students @ ^

Please read the following passage with a neighbor to learn more. [Please print and disseminate fifth grade student text.]

Some of the biggest challenges Amelia faced on her journey to becoming a pilot included overcoming the doubts of others, dealing with the technical difficulties of flying, and facing dangerous weather conditions. Many people didn't think women could be pilots, but Amelia's determination and confidence helped her push through those obstacles. An **obstacle** is something that makes it difficult to do something or get where you want to go. It can be a physical barrier, like a fallen tree in the way, or a challenge, like a tough math problem. Overcoming obstacles means finding a way to get past or deal with them so you can keep moving forward! Amelia worked tirelessly to overcome obstacles, learning everything she could about flying. Her bravery allowed her to take risks that many might shy away from. In 1928, publisher George Putnam approached Amelia with an incredible opportunity: to be the first female passenger to fly across the Atlantic Ocean.

TELL Students (continued)

On June 17, 1928, she embarked on this historic journey from Newfoundland to Wales alongside pilot Wilmer Stultz and co-pilot Lou Gordon. The flight lasted 20 hours and 40 minutes, and while Amelia didn't touch the controls, her decision to participate in such a dangerous adventure was significant. At that time, flying was dangerous, and many pilots had tragically lost their lives in pursuit of their dreams. Amelia's courage and participation made her an icon of bravery and a true sensation. A **sensation** is a strong feeling or excitement that people experience. It can also mean something that is really popular or gets a lot of attention, like a new movie or a great performance. For example, when Amelia Earhart flew across the Atlantic, she became a sensation because everyone was amazed by what she did!

ASK Students

What do you think it felt like for Amelia to become a sensation after her flight across the Atlantic, even though she did not actually fly the plane? How do you think her achievement inspired other women at the time?

TELL Students

Becoming a sensation must have felt both exciting and overwhelming for Amelia. She likely felt proud of her achievement and the attention it brought, but at the same time, she might have wished she could have flown the plane herself. Her journey inspired many women by showing them that they could pursue their dreams. [Reference Flight Image.] Amelia's determination and courage were key qualities that helped her achieve dreams. Her achievement demonstrated the opportunities available for women and what they could accomplish. When Amelia returned, she was welcomed by cheering crowds who marveled at her achievement, yet she felt she didn't deserve the credit. [Reference Cheering Crowd Image.] While Amelia had hoped to pilot even a short portion of the trip, she was disappointed that she only got to briefly take control of the plane during the final leg of the journey, from Wales to Southampton, England, after the main flight had already been completed. "Stultz did all the flying—he had to. I was just baggage, like a sack of potatoes," she said, reflecting her humble attitude. This humility overlooks the significant risks she took simply by participating in such a daring adventure at a time when flying was dangerous for both men and women. Despite her feelings of inadequacy, Amelia remained hopeful, adding, "Maybe someday I'll try it alone."

ASK Students

Why do you think Amelia felt disappointed about not flying during this historic flight, and how do you think this influenced her desire to try flying solo in the future?

TELL Students **P**

Amelia felt disappointed about not flying during this historic flight because she had worked hard for the opportunity and wanted to prove herself as a capable pilot. **Capable** means having the skills or ability to do something well. When we say someone is a capable pilot, it means they can fly a plane confidently and safely. It shows that they have worked hard and learned what they need to know to succeed! Amelia wanted to show the world that she could achieve her dreams and demonstrate her skills as a pilot. And, on May 20, 1932, she made history! Just five years after Charles Lindbergh became the first person to fly solo nonstop across the Atlantic Ocean, Amelia became the second aviator and the first woman to achieve this incredible accomplishment. In fact, she was also the first person to fly across the Atlantic two times! Amelia took off in a red Lockheed 5B Vega from Harbor Grace, Newfoundland, Canada, on the evening of May 20. But this journey was not easy. Amelia faced many challenges during her flight, and success was not guaranteed.

ASK Students

What qualities helped Amelia overcome the doubts of others and succeed as a pilot? How do you think her determination influenced her journey?

TELL Students

Amelia's determination and courage were key qualities that helped her overcome doubts and succeed as a pilot. She believed in herself and was willing to work hard, even when others doubted her abilities. Her confidence allowed her to face challenges head-on, and her perseverance kept her moving forward despite obstacles. **Perseverance** means not giving up, even when things are tough. It is about trying and working hard to reach your goals, even if you face challenges or make mistakes along the way. When you have perseverance, you stay determined and keep going until you succeed! Shortly after starting her more than 2,000-mile journey, Amelia ran into bad weather. Amelia had to deal with being tired and feeling sick, and she discovered that her fuel tank was leaking! **[Reference Plane Issues Image.]** To make things even more difficult, a crack in the engine caused flames to shoot out.

TELL Students (continued)

Ice formed on the wings of her plane, making it hard to fly and causing her to descend quickly to just above the ocean waves. When she finally spotted land, she landed in a farmer's field. "Where am I?" she asked.

ASK Students

What do you think Amelia felt during those challenging moments of her flight when things were going wrong? How do you think her determination helped her stay calm and focused in such a tough situation?

TELL Students 🖎

During those challenging moments of her flight, Amelia likely felt a mix of fear and determination. Facing such tough situations, she probably felt the pressure, but her strong belief in herself helped her stay calm and focused. Instead of giving up, she used her courage to push through the difficulties, which ultimately led to her success. [Reference Amelia Image.] Amelia had arrived in Culmore, near Londonderry in Northern Ireland. She had accomplished her goal and showed the world just how talented, brave, and capable she was as a pilot. For her amazing achievement, Amelia received the National Geographic Society's gold medal from President Herbert Hoover, as well as the Distinguished Flying Cross from Congress.

ASK Students

How did Amelia's feelings of fear and determination influence her actions during her flight? What can we learn from her ability to stay calm and focused in tough situations?

TELL Students

Amelia's experiences of fear and determination significantly influenced her actions during her flight. When confronted with challenges, her determination kept her focused on her goal, while her fear served as a reminder of the necessity to prioritize safety and make wise choices. By effectively balancing these emotions, she was able to accomplish her dream. Her story teaches us that it is normal to feel afraid at times, but gaining self-confidence can empower us to overcome obstacles. [Reference Amelia Image.] Her extraordinary flight was celebrated worldwide and is still regarded today as a pivotal milestone in aviation history.

TELL Students (continued)

A **milestone** signifies an important event or achievement that represents a significant progression in a journey. For instance, learning to ride a bike without training wheels or successfully completing a substantial project at school are both milestones. They show progress and allow us to celebrate our accomplishments!

ASK Students

How did Amelia's ability to balance her fear with confidence help her achieve her dreams, and what milestones in your own life have made you feel proud?

TELL Students

Please read the following passage to learn more.

Amelia Earhart's ability to balance her fear with confidence was important in helping her achieve her dreams. By acknowledging her fears, she understood the importance of staying safe and making smart choices, which allowed her to take calculated risks. This bravery is something we can all learn from—it is okay to feel scared sometimes, but believing in ourselves helps us overcome obstacles and reach our goals. Although Amelia had many interests, she courageously pursued her daring mission to cross the Atlantic all by herself! She inspired many people by sharing her passion for flying, and she is remembered not only for her incredible accomplishments but also for the love of flying she shared with others.

Let's watch an exciting Learn More with Liberty video and a Patriot of the Week to learn more!

WATCH •

Learn More With Liberty: The Final Flight: Mystery and Legacy

Patriot of the Week: Amelia Earhart







Objective

Fifth-grade students will investigate theories surrounding Amelia Earhart's disappearance, analyze differing perspectives, and calculate percentages based on their findings.

Materials Needed

- Access to research materials (books, articles, internet)
- Chart paper or whiteboard for data collection
- Markers
- Calculators (optional)
- Survey handout (with space for recording responses)

Review

- Briefly review Amelia Earhart and her significance in aviation history.
- Present the mystery of her disappearance in 1937 during her attempt to circumnavigate the globe. Explain that various theories exist about what happened to her.

Group Research

- Divide the class into small groups (4-5 students each).
- Assign each group a specific theory to research. Possible theories include:
 - She crashed on a remote island.
 - She was captured by the Japanese.
 - She successfully landed but lived under a different identity.
 - o She was lost at sea.
- Instruct groups to gather key details about their theory, including:
 - The origin of the theory
 - Evidence supporting it
 - Any counter arguments

Class Discussion

- Each group presents their findings to the class.
- After each presentation, hold a brief discussion to clarify details and gather opinions.



Survey Creation

- Ask students to develop a survey question to determine how many classmates believe in each theory. For example: "What do you think happened to Amelia Earhart?"
- Each student should have the opportunity to express their belief about what happened to Amelia.

Conducting the Survey

- Have students circulate the classroom and ask their peers the survey question. Each student should record the responses on the survey handout.
- Encourage students to ask at least 10 classmates for their opinions.

Data Collection

- Gather all responses and compile the data on the chart paper or whiteboard.
- Create a tally chart for each theory based on the survey results.

Calculating Percentages

- Guide the students to calculate the percentage of responses for each theory.
- Provide and discuss the formula for percentage calculation.
- Have students present their calculated percentages back to the class.

Conclusion

- Lead a discussion about the findings:
 - Which theory had the most support?
 - What factors do students think influenced their classmates' beliefs?
 - How does this activity connect to the importance of critical thinking in understanding historical events?

Reflection (Homework or Classwork)

Ask students to write a short reflection on what they learned about Amelia Earhart, the significance of investigating historical mysteries, and how to evaluate different perspectives.

This interactive activity encourages research, collaboration, and critical thinking while engaging students in the intriguing mystery of Amelia Earhart's disappearance.



NAME:	DATE:
Instructions: Conduct a survey k	by asking your classmates what they believe happened to Amelia
Earhart. Record responses below	' .
Survey Question	
What do you think happened to	Amelia Earhart?
(Choose one of the following the	ories)
1. She crashed on a remote islan	d.
2. She was captured by the Japan	nese.
3. She successfully landed but liv	ed under a different identity.
4. She was lost at sea.	
5. Other (please specify):	
Classmate Responses	

Classmate's Name	Response (Theory Selected)



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Total Number of Classmates Surveyed:
Responses for each theory:
Crashed on a remote island:
Captured by the Japanese:
Lived under a different identity:
Lost at sea:
Other:
Reflection
After conducting your survey, reflect on the following questions
Which theory had the most support among your classmates?
What do you think influenced their beliefs?
,



Total Responses

Reflection
After conducting your survey, reflect on the following questions
How does understanding different perspectives help in analyzing historical events?

This handout will help you gather and organize your survey results effectively. Enjoy learning about Amelia Earhart!





Objective

Students will investigate the principles of flight, design advanced paper airplanes, and analyze the impact of various flight factors on performance, inspired by Amelia Earhart's contributions to aviation.

Materials Needed

- Various types of paper (construction paper, printer paper, cardstock)
- Rulers
- Scissors
- Tape or glue
- Markers or crayons for decoration
- Stopwatch (or a timer app)
- Measuring tape
- Graph paper (for recording results)
- Flight data sheets

Definitions of Flight Terms

- Lift: The upward force that enables an airplane to rise off the ground, generated by the wings as air flows faster over the top than beneath.
- Thrust: The forward force produced by the airplane's engines, propelling the aircraft forward and overcoming drag.
- Drag: The resistance force that opposes thrust, caused by air friction; it slows down the airplane.
- Gravity: The downward force pulling everything toward the Earth, which must be overcome by lift for flight to occur.
- Stability: The ability of an airplane to maintain a steady flight path; stability is affected by the aircraft's design and weight distribution.

Introduction to Flight Principles

Discuss the four forces of flight: lift, thrust, drag, and gravity. Provide examples of how each force affects airplane performance.





Research Phase

In pairs, students will research Amelia Earhart's achievements and the principles of flight. Encourage them to explore how early aviation technology has evolved.

Design Phase

- Students will sketch their airplane designs on graph paper. They must consider:
 - Wing shape: Different designs (delta, rectangular, etc.) will affect lift and drag.
 - Weight distribution: How the placement of weight (like paper clips) can impact stability.
- Each design should include annotations explaining how it relates to the principles of flight.

Construction

Provide students with various types of paper and allow them to build their airplanes based on their designs. Encourage them to incorporate elements that enhance performance, such as adjustable wings or weighted bodies.

Flight Testing

- Conduct flight tests in an open area. Each student will:
 - o Launch their airplane multiple times, measuring the distance and time in the air.
 - Use the measuring tape and stopwatch to gather data.
- Record all data on flight data sheets.

Data Analysis

- Have students analyze their results. They should:
 - o Compare the distances and flight times of different designs.
 - o Discuss how modifications (like wing shape or weight adjustments) affected performance.
 - Relate their findings to the principles of lift, thrust, drag, and gravity.
- Encourage critical thinking by asking questions such as:
 - Which design features contributed most to lift?
 - How did drag affect your airplane's distance?





Reflection and Presentation

- Students will write a reflective paragraph summarizing what they learned about aviation design and the impact of Amelia Earhart's legacy.
- Each pair will present their findings to the class, highlighting their design process, modifications, and the scientific principles that influenced their outcomes.

Optional Extension

Organize a "Flight Competition" where students can compete for distance and airtime with their designs. Award titles like "Best Design," "Longest Flight," and "Most Creative."

This advanced activity integrates engineering and science principles with historical context, challenging fifth graders to apply critical thinking while honoring the legacy of Amelia Earhart!



Aviation Engineering Challenge Rubric

Student Name:	Date:
Siudeni Name.	Dale.

Criteria	Excellent (4 points)	Good (3 points)	Satisfactory (2 points)	Needs Improvement (1 point)	Score
Research Quality	Thorough research with accurate and relevant information about Amelia Earhart and flight principles.	Good research with mostly accurate information; minor inaccuracies present.	Adequate research, but lacks depth; some inaccuracies noted.	Minimal research evident; significant inaccuracies or irrelevant information.	
Design Process	Design is innovative, thoughtfully executed, and reflects a deep understanding of flight principles	some innovative to flight principles		Design lacks creativity and thought; little to no understanding of flight principles.	
Construction Quality	Airplane is well- constructed, stable, and demonstrates a strong application of engineering principles.	Airplane Airplane is solidly built; some minor issues affecting performance. Airplane construction basic; multip issues affectir stability and performance		Airplane construction is basic; multiple issues affecting stability and performance.	
Data Collection and Analysis	Data is accurately recorded, and analysis shows clear connections to design choices and flight principles.	Data is mostly accurate with some analysis; connections to design choices are evident.	Data collected is basic; limited analysis or connections to design choices.	Data is inaccurate or incomplete; analysis shows little understanding of flight principles.	
Presentation	Presentation is clear, engaging, and well- organized; reflects deep understanding of the project.	Presentation is clear and organized; shows good understanding of the project.	Presentation is basic; some organization present, but lacks depth or engagement.	Presentation is unclear or disorganized; minimal understanding of the project.	
Reflection	Reflective paragraph provides insightful analysis of learning and connections to Amelia Earhart's legacy.	Reflective paragraph summarizes learning; connections to Amelia Earhart are somewhat evident.	Basic reflection with limited insights; connections to Amelia Earhart are vague.	Reflection lacks depth; little to no connection to Amelia Earhart's legacy.	

Aviation Engineering Challenge Rubric

Independent Worksheet

NAME: DATE:
Part 1: Reading Comprehension Pand the passage below and answer the questions
Read the passage below and answer the questions.
Amelia Earhart was born on July 24, 1897, in Atchison, Kansas. She is best known for being the first woman to fly solo across the Atlantic Ocean in 1932. Amelia faced many challenges in her pursuit of becoming a pilot, including societal expectations and personal hardships. Despite these obstacles, sh remained determined and worked hard to achieve her dream. Amelia was also a strong advocate for women in aviation, encouraging young girls to follow their dreams.
1. What is Amelia Earhart famous for?
1. What is / thena Earnah famous for :
2. What challenges did Amelia face on her path to becoming a pilot?
3. How did Amelia advocate for women in aviation?

Independent Worksheet

Part 2: Critical Thinking

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Answer	the	tollowing	allestions	ın	complete	sentences.
, 111311CI	1110	10110111119	questions		COMPICIO	ocinciacos.

1. Why do you think Amelia's achievements	were significant fo	or women in aviatior	1?
2. If you could ask Amelia Earhart one ques	stion, what would it	be and why?	

Independent Worksheet

Part 3: Creative Expression

Draw a picture of Amelia Earhart or an airplane. Below your drawing, write a few sentences about why she inspires you.



Teacher's Note

Encourage students to use their creativity in the drawing and to think critically about Amelia Earhart's impact on aviation and women's roles in society.



Independent Worksheet Answer Key

Part 1: Reading Comprehension

1. What is Amelia Earhart famous for?

Answer: She is famous for being the first woman to fly solo across the Atlantic Ocean in 1932.

2. What challenges did Amelia face on her path to becoming a pilot?

Answer: Amelia faced challenges such as societal expectations and personal hardships.

3. How did Amelia advocate for women in aviation?

Answer: Amelia encouraged young girls to follow their dreams and was a strong advocate for women's participation in aviation.

Part 2: Critical Thinking

(Note: Answers may vary; provide guidance based on student responses.)

1. Why do you think Amelia's achievements were significant for women in aviation?

Sample Answer: Amelia's achievements were significant because they broke barriers for women and inspired them to pursue careers in aviation, showing that women could achieve remarkable things.

2. If you could ask Amelia Earhart one question, what would it be and why?

Sample Answer: I would ask her, "What motivated you to keep flying despite the challenges?" This question is important because it could reveal her mindset and determination.

Part 3: Creative Expression

(Note: Answers will be unique to each student's drawing and written response; no specific answers provided.)



Student Text

Please read the following passage with a neighbor to learn more.

Some of the biggest challenges Amelia faced on her journey to becoming a pilot included overcoming the doubts of others, dealing with the technical difficulties of flying, and facing dangerous weather conditions. Many people didn't think women could be pilots, but Amelia's determination and confidence helped her push through those obstacles. An **obstacle** is something that makes it difficult to do something or get where you want to go. It can be a physical barrier, like a fallen tree in the way, or a challenge, like a tough math problem. Overcoming obstacles means finding a way to get past or deal with them so you can keep moving forward! Amelia worked tirelessly to overcome obstacles, learning everything she could about flying. Her bravery allowed her to take risks that many might shy away from. In 1928, publisher George Putnam approached Amelia with an incredible opportunity: to be the first female passenger to fly across the Atlantic Ocean. On June 17, 1928, she embarked on this historic journey from Newfoundland to Wales alongside pilot Wilmer Stultz and co-pilot Lou Gordon. The flight lasted 20 hours and 40 minutes, and while Amelia didn't touch the controls, her decision to participate in such a dangerous adventure was significant. At that time, flying was dangerous, and many pilots had tragically lost their lives in pursuit of their dreams. Amelia's courage and participation made her an icon of bravery and a true sensation. A **sensation** is a strong feeling or excitement that people experience. It can also mean something that is really popular or gets a lot of attention, like a new movie or a great performance. For example, when Amelia Earhart flew across the Atlantic, she became a

ALITTLEPATRIOTS

sensation because everyone was amazed by what she did!

Amelia Earhart's ability to balance her fear with confidence was important in helping her achieve her dreams. By acknowledging her fears, she understood the importance of staying safe and making smart choices, which allowed her to take calculated risks. This bravery is something we can all learn from—it is okay to feel scared sometimes, but believing in ourselves helps us overcome obstacles and reach our goals. Although Amelia had many interests, she courageously pursued her daring mission to cross the Atlantic all by herself! She inspired many people by sharing her passion for flying, and she is remembered not only for her incredible accomplishments but also for the love of flying she shared with others.

Resources

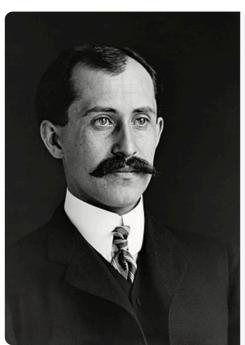
- https://airandspace.si.edu/stories/editorial/five-things-you-may-not-know-about-amelia-earhart
- https://airandspace.si.edu/collection-objects/1903-wright-flyer/nasm_A19610048000#:~:text=After%20building%20and%20testing%20three,852%20ft)%20in%2059%20seconds.
- https://www.pbs.org/wgbh/americanexperience/features/earhart-timeline/
- https://airandspace.si.edu/explore/stories/evolution-commercial-flying-experience
- https://npg.si.edu/exhibit/earhart/pop-ups/02.html
- https://airandspace.si.edu/stories/editorial/amelia-earhart-viva-la-vega
- https://airandspace.si.edu/explore/stories/amelia-earhart
- https://www.ameliaearhart.com/achievements/

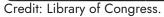
Amelia Earhart

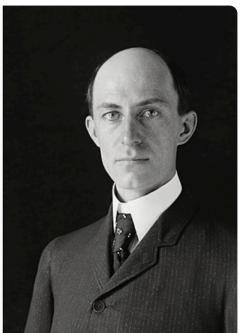


Credit: National Women's History Museum.

Wright Brothers







Wright Flyer



Credit: Wikipedia.

Young Amelia



Credit: Wikipedia.

Progression of Planes



Credit: Canva Pro.

Cargo



Credit: Canva Pro.

Commercial Airliner



Boeing 747



Credit: Canva Pro.

Private Jet



Credit: Canva Pro.

Military Aircraft



Credit: Canva Pro.

Helicopter



Credit: Canva Pro.

Glider



Credit: Canva Pro.

Red Cross Symbol



Credit: The American Red Cross.

Stunt Show



Credit: Canva Pro.

Amelia and Family



Credit: Wikipedia.

Amelia's Jobs



Credit: National Park Service.

Canary



Credit: Canva Pro.

Altitude



Credit: Canva Pro.

Amelia's Challenges



Credit: Canva Pro.

Flight



Credit: Canva Pro.

Plane Issues



Credit: Canva Pro.

Cheering Crowd



Credit: Canva Pro.

Notes

