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HARRIET QUIMBY

AMERICAN PILOT, WRITER

1875 - 1912

OBJECTIVES

- Describe Harriet Quimby's life before her interest in flying.
- Name the event that got her excited about flying.
- List two of her flying accomplishments.
- Describe the circumstances that led to her death.
- Build a Bleriot XI.

STANDARDS

(NGSS)

Science

- | | |
|-------------|------------|
| ■ MS-ETS1-1 | ■ MS-PS2-3 |
| ■ MS-ETS1-2 | ■ MS-PS2-4 |
| ■ MS-ETS1-3 | ■ MS-PS2-5 |
| ■ MS-ETS1-4 | ■ MS-PS3-1 |
| ■ MS-PS2-1 | ■ MS-PS3-2 |
| ■ MS-PS2-2 | ■ MS-PS3-3 |

ELA/Literacy

- | | |
|-------------|--------------|
| ■ RST.6-8.3 | ■ WHST.6-8.7 |
| ■ RST.6-8.7 | ■ WHST.6-8.8 |
| ■ SL.8.5 | ■ WHST.6-8.9 |

Mathematics

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| ■ MP.2 | ■ 7.SP |
| ■ 7.EE.B.3 | |
| ■ 7.RP.A.3 | |

(NCSS)

- IV.f.

On August 1, 1911, Harriet Quimby took her pilot's test and became the first U.S. woman to earn an Aero Club of America aviator's certificate.

Quimby became the first woman to fly across the English Channel merely using a small hand compass for navigation. Although Quimby lived only to the age of 37, she had a major influence upon the role of women in aviation by opening the door to women. In September 1912, she wrote an article that was published by *Good Housekeeping* that extolled the value of aviation as the ideal sport for women. "There is no sport that affords the same excitement and enjoyment, and exacts in return so little muscular strength," she wrote. "It is easier than walking, driving or automobil-ing; easier than golf or tennis... Flying is a fine, dignified sport for women... and there is no reason to be afraid so long as one is careful."

These words read through a lens of historic perspective have a different interpretation today. Currently, a sport's requiring "little muscular strength" would not necessarily be a draw for many women athletes. And assurances that women need not "be afraid" of an activity might

even be offensive to some. Today's reader also knows the eerie irony of her words on the safety of flying, as Quimby was killed in an aviation accident. Returning from a 20-minute flight, her airplane was seen to suddenly stand on its nose and both Quimby and her passenger were tossed out of their seats and fell 300 feet to their deaths. Aviation pioneer Glenn Curtiss argued later that such an accident should never have happened if Quimby and her passenger had been properly strapped in. Early aviation was to learn many rules for safety along the way to the safe flights we now take for granted.

Amelia Earhart and many other female aviators were inspired by Quimby. Earhart said, "To cross the Channel in 1912 required more bravery and skill than to cross the Atlantic today... We must remember that, in thinking of America's first great woman flier's accomplishment." For Earhart and thousands of other women, Harriet Quimby helped overturn stereotypes about women's roles in society and made it possible for them to achieve their dreams.

HER STORY

In 1875, Harriet Quimby was born in Michigan, but little more of her personal history is recorded. When she was a teenager, the family moved to San Francisco, California, for health and for better living conditions.

In California, Quimby saw more young women step outside the traditional societal roles. She and other female aviation pioneers had a new sense of aerial adventure and felt they should be able to do what men were doing.

In 1900, she had a brief acting career, but her true gift was in writing. In 1902, she accepted a job in New York City and became the star reporter for *Leslie's Illustrated Weekly*. A few years later, in 1906, she became fascinated with automobiles, and that led her to become aware of flying. Quimby knew that the world of the aviator – with its new perspectives and compelling characters – was where she wanted to be.

She convinced the editor of *Leslie's* that she should learn to fly and that she would write all about it for publications. This was a national sensation for the readers who were eager to hear about the “mysteries of flight” firsthand, and from a woman. As a journalist she recorded her first flight on paper so we can feel it even today, more than 100 years later.

To quote Quimby on that day “All I have to say is this: There’s nothing like flying. It’s like riding in a high powered automobile. Only you don’t worry about how fast you’re going or whether or not you’ll get a ticket from a policeman. And get this – it’s easy! Shove in the black throttle knob to reduce power. Pull the stick back as I cross the boundary fence of the airfield. Keep the plane’s nose up high



so it stalls at just the right moment. The tail’s wheel must meet the ground first. I did it! I’m on the ground.”

The media quickly latched on to her as a female pursuing a pilot’s license in New York. It was a dangerous and expensive pursuit, and no American woman had ever done such a thing.

“It (flying) is easier than walking, driving or automobiling; easier than golf or tennis... Flying is a fine, dignified sport for women... and there is no reason to be afraid so long as one is careful.”

— Harriet Quimby

Achievements include

- An early female newspaper journalist who inspired her readers by doing the impossible – piloting an airplane in 1911
- First licensed female pilot in the United States (1911)
- First female to fly an airplane at night (1911)
- First female pilot to fly (solo) across the English Channel (1912)
- Honored by the U.S. Post Office with a 50-cent air mail stamp in the Pioneers of Aviation series of stamps



BUILD YOUR OWN BLERIOT XI

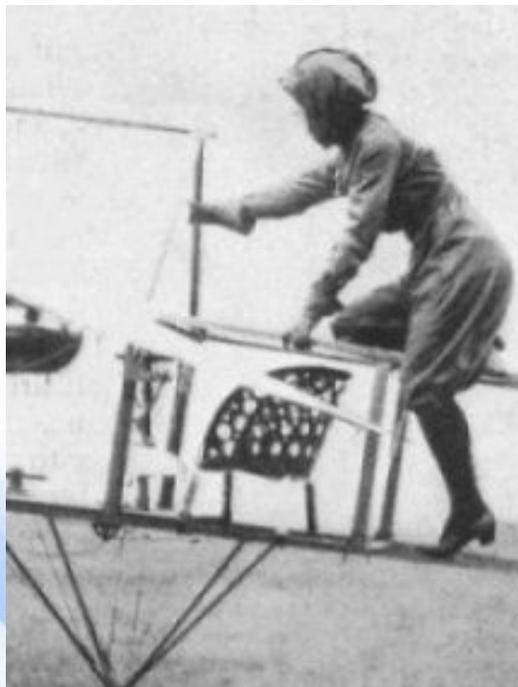
The purpose of this activity is to create a model of the airplane that Harriet Quimby used to fly the English Channel in 1912. When this model is combined with a “role play” of flying over a simulated English Channel, it gives youth an idea of how a very brave, young American woman not only achieved the first female pilot’s license, but also made a historic flight under some very dangerous circumstances. This literally opened the door for women to enter the world of flight.

BACKGROUND

Louis Bleriot designed, built and flew this airplane into the pages of aviation history. On the morning of July 25, 1909, he flew from a point near Calais, France, and landed in Northfall Meadow, near Dover, England, to become the first human in history to fly across the English Channel. Later, on April 16, 1912, Harriet Quimby flew a Bleriot the opposite direction to become the first woman in history to fly the treacherous English Channel. The Bleriot was constructed of ash, bamboo and steel tube and was covered with a rubberized fabric.



lavanguardia.com



Bettman/CORBIS

ABOUT THE PLANE

GENERAL CHARACTERISTICS

- **Crew:** 1
- **Length:** 7.62 m (25 f. 0 in)
- **Wingspan:** 7.79 m (25 ft. 7 in)
- **Height:** 2.69 m (8 ft. 10 in)
- **Wing area:** 14 m² (150 sq. ft.)
- **Empty weight:** 230 kg (507 lb)
- **Powerplant:** 1 × Anzani 3-cyl., air-cooled fan-style radial piston engine, 19 kW (25 hp)
- **Propellers:** 2-bladed Chauvière Intégrale, 2.08 m (6 ft. 10 in) diameter

PERFORMANCE

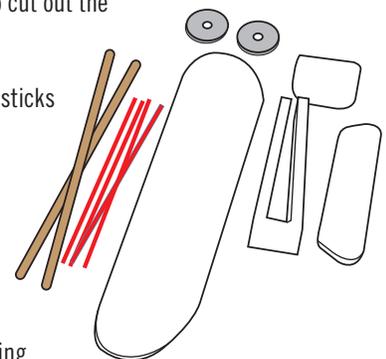
- **Maximum speed:** 75.6 km/h (47 mph; 41 kn)
- **Service ceiling:** 1,000 m (3,300 ft)



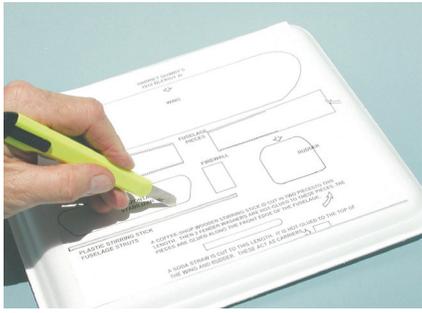
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MATERIALS

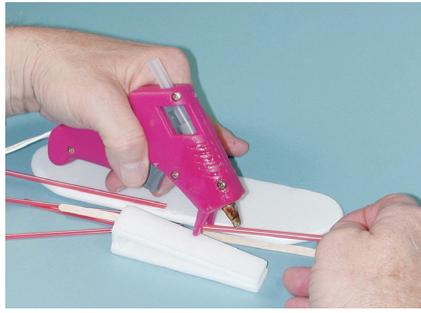
1. A foam meat tray will be needed to cut out the parts from the template
2. Four plastic coffee stirring sticks
3. Two quality coffee wooden stirring sticks
4. Two fender washers
5. A hot glue gun
6. A snap knife
7. The template
8. Broom stick or pole
9. Fishing line
10. Blue tarp or paper
11. High table/chair/ladder for launching



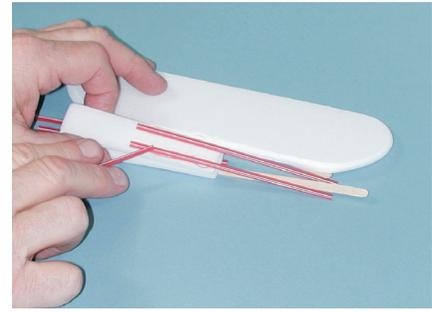
PROCEDURE PHASE I — Building the Bleriot (Read/view all directions on following pages)



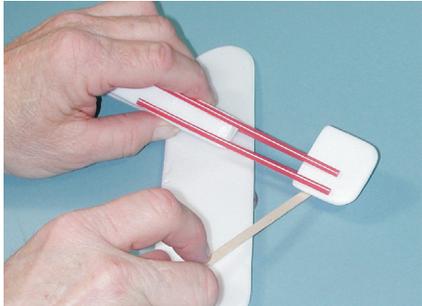
1. Tape template to bottom side of tray. Then cut out pieces with knife.



2. Run a hot glue bead along the edge of a plastic coffee stirring sticks, as shown.



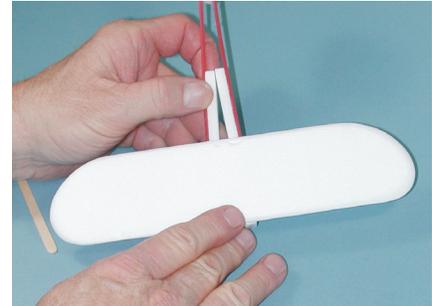
3. Glue four coffee sticks into place along the fuselage (body of airplane).



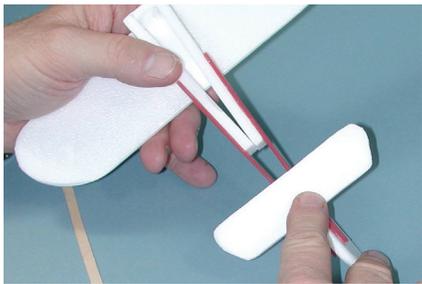
4. Hot glue the rudder to the ends of the four fuselage stirring sticks.



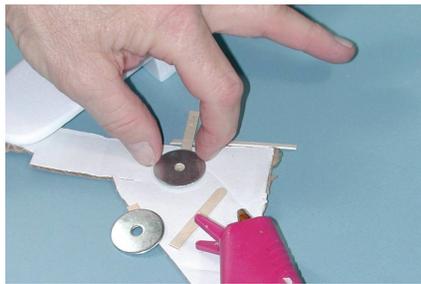
5. Run a bead of hot glue around the upper portion of the fuselage to attach the wing.



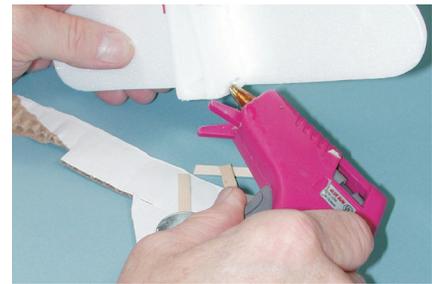
6. Mount the wing to the front of the fuselage. Study the illustration to see where.



7. Mount the horizontal stabilizer at the back near the rudder. Note that it is on the bottom of the fuselage coffee sticks. Check the illustration on how this is positioned.



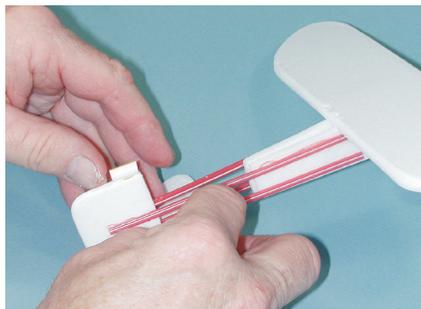
8. To make the landing gear, mount two fender washers onto two wooden coffee stirring sticks. Cut the sticks based on the template. Then put hot glue on one stick tip and press a washer down into the glue. Press a piece of scrap wood into the glue that oozes through washer. Make two, as described.



9. Run a bead of hot glue down the front of the fuselage, as shown. Using the photograph on this activity, and the illustration, mount the landing gear strut into the correct position.



10. Using your imagination and a coffee stirring stick, make and mount a propeller to the front of the fuselage. This isn't required, but it does add charm.



11. In order for this airplane to slide down a fishing line, we must mount a "carrier" at two points along the top of it. A simple solution is a short piece of soda straw hot glued to the rudder as shown.



12. Finally, another short soda straw is mounted to the upper portion of the wing to make the second "carrier" for the fishing line.



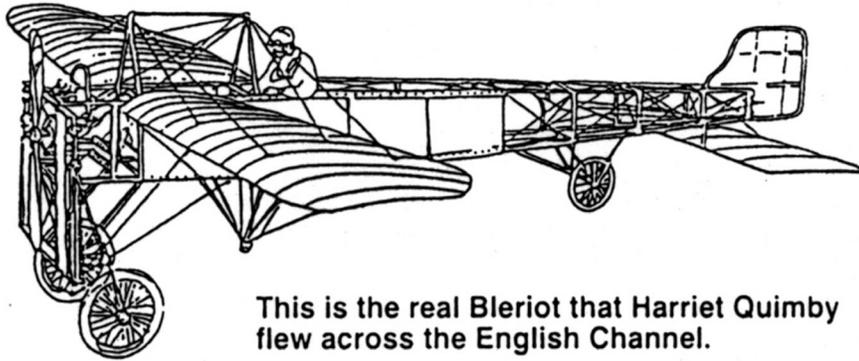
PROCEDURE PHASE II — Flying the English Channel

- In this Phase, you will set it up so that the Bleriot crosses the English Channel and lands in France. The model is piloted by a student/cadet sitting in a chair.
- A large blue tarp, or similar sheet of plastic will act as the English Channel.
- Place the tarp on the floor of a large area like a meeting room or gymnasium.
- The “pilot” will be seated about 10 feet away from the “English Channel.”
- A helper, the person who is going to launch the Bleriot, stands on a ladder or footstool, approximately 30 feet away from the seated pilot. (See next page)
- A nylon fish line is strung between a control stick (usually a dowel rod or piece of broomstick about 2 feet long) and a highplace in the room where the helper is stationed.
- The tarp is in front of the pilot and the space between the broomstick/fish line attachment is the “coast of France.”
- The helper is located at “Dover, England.”
- The helper carefully strings the fish line through the soda straw attachments (carriers) on top of the Bleriot model.
- The model is held in position by the helper until the pilot calls for a release.
- Once released, the Bleriot, because of the weight of the fender washers, will slide down the fish line toward the coast of France.
- The pilot must control the little model so that it flies over the “English Channel” and lands to a full stop at “Hardelot on the coast of France.”
- If the pilot pushes forward on the stick too much, the little airplane will crash into the Channel.
- If the pilot pulls back too much, the little Bleriot will over shoot the coast of France and another attempt will have to be made.
- How does each of the variables (angle of string, weight of plane, length of string, position of control stick) affect your ability to get the model from Dover, England across the English Channel to the coast of France? Adjust one variable to test its importance to the outcome.
- Use a table like the one below to record results.

FLIGHT	ANGLE OF FLIGHT	WEIGHT OF PLANE	LENGTH OF STRING (CM) (or inches)	POSITION OF CONTROL STICK (front or back)	RESULTS HIT, OVERSHOT, CRASH
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

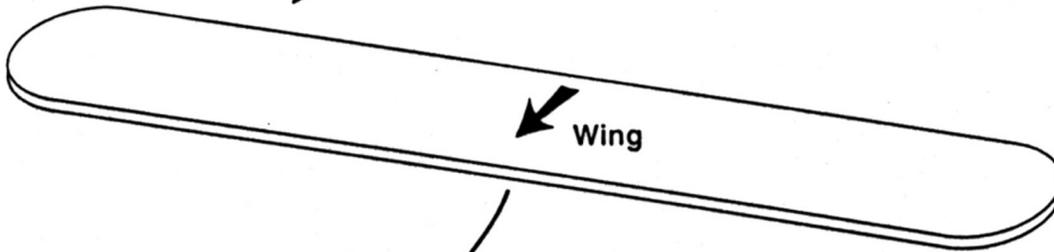
Try each variable 3 times. Record the results. Compare results with other pilots.

Harriet Quimby's
Bleriot XI 1912
(pronounced Blair-e-oh)



This is the real Bleriot that Harriet Quimby flew across the English Channel.

Glue ½ inch section of soda straw to top of wing and rudder (↙ ↘)

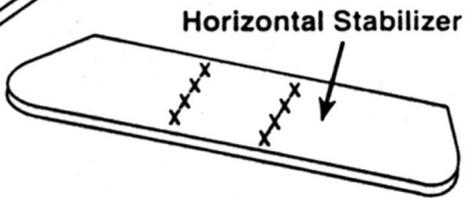
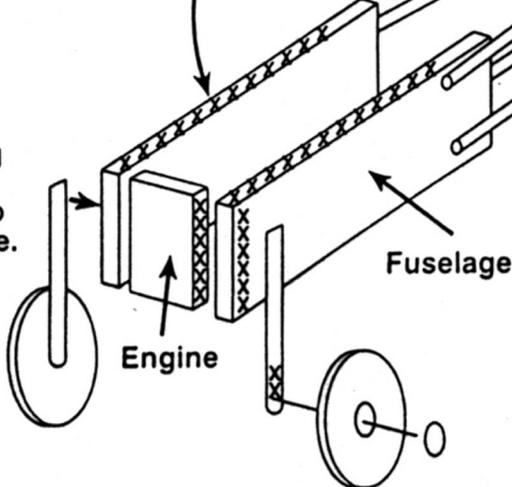


The wing is glued to the front of the fuselage.



The rudder is held in place by gluing the plastic stirring sticks to it.

The landing gear sticks are glued to the fuselage.

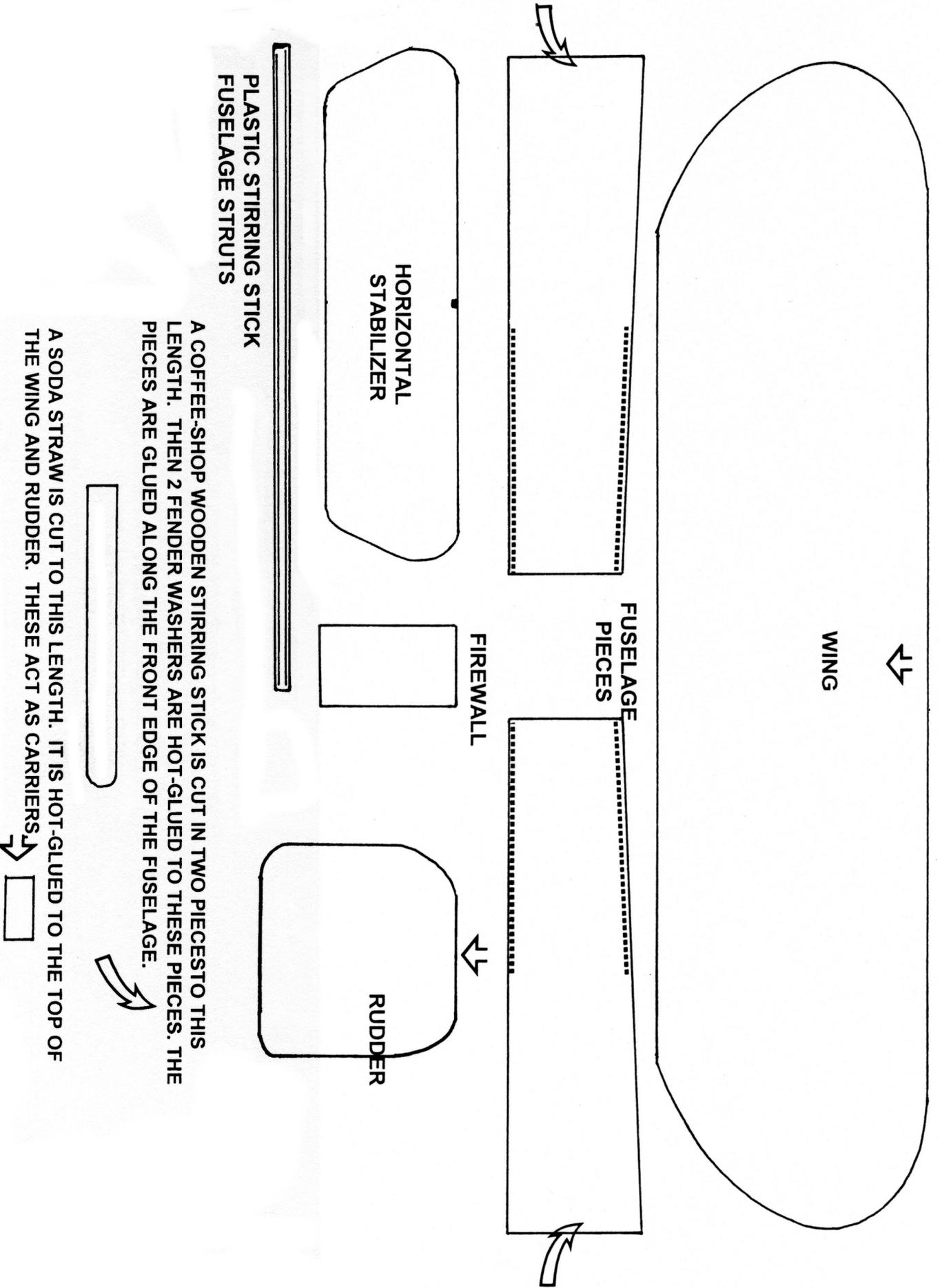


The horizontal stabilizer is hot-glued to the underside of the fuselage.

The fender washer wheels are glued to the wooden stirring sticks. A small bit of wood is hot-glued to the fender washer hole. The glue holds the "wheel" in place.

"XXXX" – glue is applied

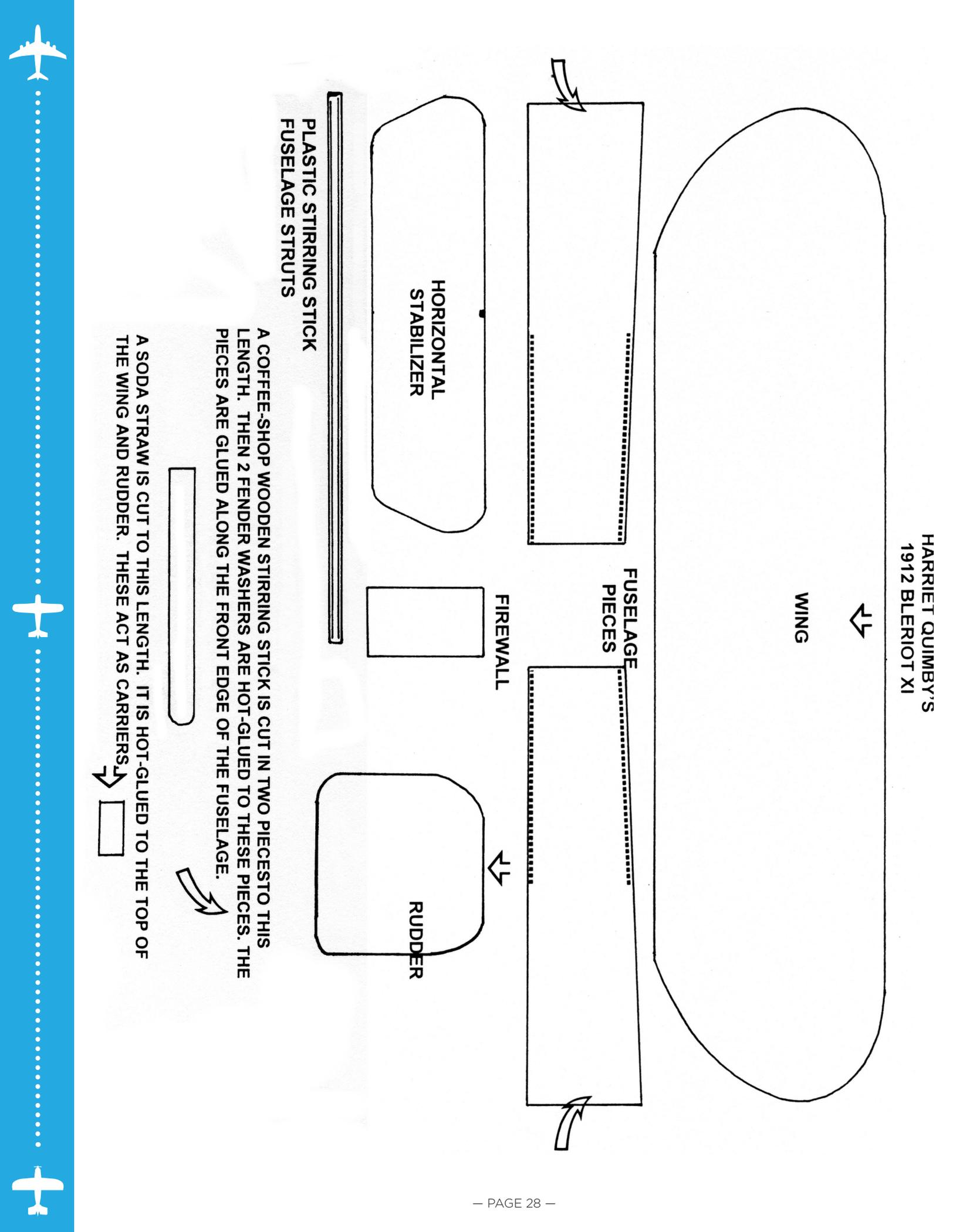
© 1994 Ben Millspaugh



PLASTIC STIRRING STICK
FUSELAGE STRUTS

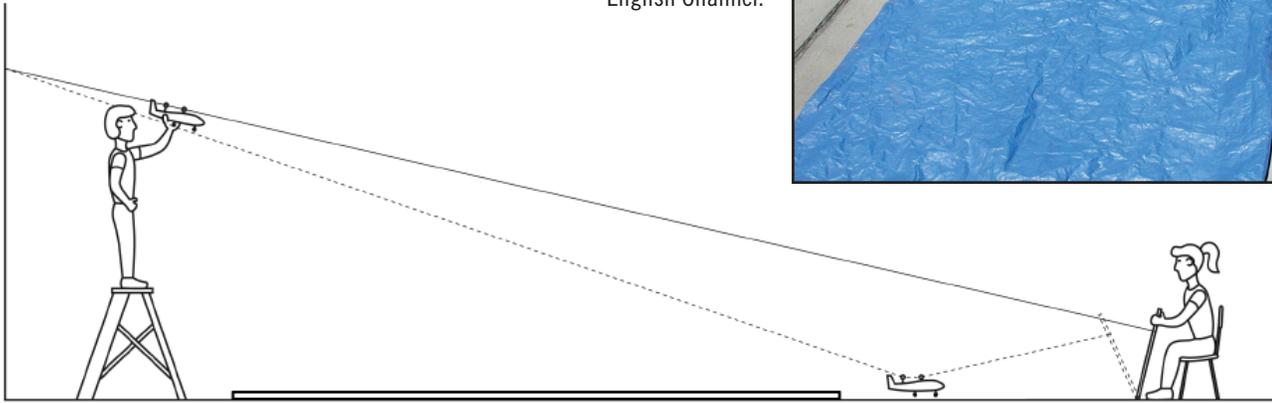
A COFFEE-SHOP WOODEN STIRRING STICK IS CUT IN TWO PIECES TO THIS LENGTH. THEN 2 FENDER WASHERS ARE HOT-GLUED TO THESE PIECES. THE PIECES ARE GLUED ALONG THE FRONT EDGE OF THE FUSELAGE.

A SODA STRAW IS CUT TO THIS LENGTH. IT IS HOT-GLUED TO THE TOP OF THE WING AND RUDDER. THESE ACT AS CARRIERS.



USE YOUR IMAGINATION

Throw down a blue tarp and pretend that it's the vast English Channel.



EXTENSION DISCUSSION QUESTIONS

1. The students could discuss what the life and times were like, especially for women, in the period from 1900 to 1912.
2. Students could also investigate the performance of airplanes during the time period from 1900 to 1912.
3. Students might investigate the weather/climate of the English Channel during April. (Quimby flew in fog and rain before landing on a sunny beach.)
4. Another interesting point is to discuss what Harriet Quimby's role might have been had she been alive during World War I.
5. In 1912, Harriet Quimby wrote in *Good Housekeeping* that the sport of flying is a "perfectly dignified sport for women." Ask the cadets or students if there is any sport that might not be considered "dignified" for women today. Lead a discussion on whether a sport should be unavailable to women and ask the students to provide arguments on both sides of that question. Have a discussion on how those attitudes have changed since 1912 and may change in the future.
6. Research and discuss recent gender barrier breaks in other sports. Read about Becca Longo, who was the first woman to sign a letter of intent to play college football at a D-II school or higher. She signed with Adams State University of Colorado on National Signing Day Feb. 1, 2017.

ABOUT THE ENGLISH CHANNEL



- **SIZE:** It covers about 29,000 square miles.
- **GEOGRAPHY:** The English Channel separates the southern coast of England from the northern coast of France. It also connects the Atlantic Ocean and the North Sea.
- **DEPTH:** The greatest depth of the Channel is 565 feet.

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6. Tallman, Jill W. (2011). Thanks, Harriet. (Harriet Quimby profile). *AOPA Pilot*. Retrieved from <https://www.aopa.org/news-and-media/pilot-magazine-archives>
7. Portrait of Harriet Quimby courtesy of the artist Terry Jones, March 2017.
8. Harriet Quimby photo: PDIMG: Library of Congress