

International Women's Air & Space Museum
would like to thank the following for
their on-going support



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TEACHER'S GUIDE 2011-2012

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Joan L. Hrubec

Joan Hrubec was a lifelong resident of Cleveland. As a student at St. Joseph's Academy, Joan developed an interest in aviation. She was a cadet in the Civil Air Patrol and won awards as a model plane builder. She attended Stephens College in Columbia, Missouri and earned her private pilot's license there. She graduated

in 1950. Joan was an active member of the 99s and served on the International Executive Board for three years. She was an air racer and participated in the Powder Puff Derby four times. She won the Angel Derby from Canada to Cuba in 1955 and also took first place in the Fairladies Indiana Air Race in 1967. Joan was a member and past president of the Zonta Club of Cleveland. She was a trustee of the International Women's Air & Space Museum for 31 years and was instrumental in moving IWASM to Cleveland in 1998. Joan died in 2007. IWASM's Aviation Education Center has been named in her honor.

Joan L. Hrubec Aviation Education Center

-Now Scheduling Field Trips-
Call: Michelle at 216.623.1111

Admission is FREE!



The International Women's Air & Space Museum offers a wide array of affordable educational programs suitable for any budget.

At the Museum:

- Guided Tours
- Self Guided Tours -FREE!
- Scavenger Hunts
- Museum Instructed Programs
- Joan L. Hrubec Aviation Education Center

At your school:

- Classroom Programs
- Materials for Loan
- School Assemblies

Homeschoolers Welcome!

For more information call: 216.623.1111

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About IWASM Educational Programs

So what's so special about a women's air & space museum you ask? Looking at IWASM as part of a larger story, students can observe how aviation and aeronautics facilitated change around the world. Harriet Quimby, the first licensed female pilot, earned her pilot's license in 1911 and often stated it was easier for a woman to fly than vote. Bessie Coleman, the first

African American pilot, saved all her money to travel to France to take lessons because she couldn't find an instructor in the U.S. that would train a black woman. She said of flying, "The sky is the only place free of prejudice." Therefore, by using women's experiences with air & space as a lens to view History we can learn more about how people used these fields to fight for Civil Liberties.



Harriet Quimby, the first licensed American female pilot.



Bessie Coleman the first licensed African American

The International Women's Air & Space Museum is dedicated to preserving the history and future contributions of women in air & space by providing educational programs that educate students about past contributions of women and inspire them to strive and achieve their own goals.

IWASM offers a wide variety of programs that reinforce lessons learned in the classroom. Hands-on activities give students the opportunity to understand the practical applications of historical events.

IWASM programs are compatible with Ohio Academic Content Standards for Science and Social Studies.

Contact Education Manager Michelle Epps at 216-623-1111 to schedule your class for an IWASM program today!

PLAN A FIELD TRIP TO IWASM!

All of our programs are compatible with Ohio Academic Content Standards in Social Studies or Science
IWASM programs are both fun and educational. Each program is adjusted for each grade to fulfill the appropriate state standard while providing your class with a memorable visit. Here at IWASM we understand that one-size may not necessarily fit all. If you would like to visit but do not see a program available that fits your needs, call us and we will tailor a program specifically for your class.

Program Fees and Registration

All programs are approximately 90 minutes, unless otherwise noted. Program fees are \$90 for up to 45 students, unless otherwise noted. Programs must be scheduled at least two weeks prior to visit. It is recommended that an alternate date be given at the time of registration in case the desired date is not available.

Have a group larger than 45?

Due to certain limitation, groups in excess of 45 may not be able to attend the same program at the same time. We suggest you choose an additional program and break the larger group into two groups which will then rotate through the two (or more) programs.

Lunch Time at IWASM

Due to IWASM's location there are no restaurants nearby for students to dine. We recommend that if you plan on having lunch at the museum to advise students to bring a packed lunch. Pizza Delivery available from Pizza Pan.

For more information or to schedule your class for a visit call
Education Manager Michelle Epps at 216-623-1111
or email at mepps@iwasm.org

Programs at the Museum:
Learning from the Past



Price: \$1 per student, min \$15
For up to 45 students
Approx. time: 45 minutes



Price: \$1 per student
Approx. time: 45 minutes
For up to 45 students

The Skies the Limit: The Women of Air & Space Guided Tour

Take a guided tour of the museum and learn about the women of air & space. After the guided tour challenge your students to the Discovery Hunt (see below) to see if they were paying attention.

The Skies the Limit: The Women of Air & Space Discovery Hunt

This self guided tour of the museum is aided with a Discovery Hunt designed to maximize your students' visit. Teachers can choose from Easy (grades 1-3), Medium (grades 4-7), or Difficult (grades 8-12).

Race to the Skies: Harriet Quimby and other notable early female aviators

Learn about the race to be the first female pilot with a license to fly in the United States. Use primary resources to discover the challenges facing female aviators from the past.



Harriet Quimby

Bessie Coleman and Her Daughters

Bessie Coleman was the first African American female pilot. The daughter of sharecroppers and the granddaughter of former slaves, Bessie overcame prejudice and earned her pilot's license. Her legacy continues to inspire generations of pilots. Learn about her life and struggles through activities focusing on her efforts to earn her pilot's license. (Specific activities vary by grade, contact the Education Manager at mepps@iwasm.org for more details.)



Bessie Coleman

OHIO ACADEMIC CONTENT STANDARDS BENCHMARKS

	History						People in Societies			Geography				Social Studies Skills & methods			
	A	B	C	D	E	F	A	B	C	A	B	C	D	A	B	C	D
The Skies the Limit																	
K-2																	
3-5																	
6-8																	
9-10																	
11-12																	
Race to the Skies																	
K-2																	
3-5																	
6-8																	
9-10																	
11-12																	
Bessie Coleman																	
11-12																	

Programs at the Museum:
Learning from the Past



Where in the World is Amelia Earhart?

Learn about Amelia Earhart and the Great Depression. Program includes a game in which students will answer geography clues and try to catch up to Amelia before she disappears over the Pacific Ocean.

Price: \$135
Approx. time: 90 minutes
For up to 45 students



Group of WASPs waiting to fly

World War II and the WASPs

During World War II women played a vital role in the war effort. Learn about Rosie the Riveter and the Women Airforce Service Pilots. Students will relive the past through this interactive program chronicling the lives of women during WWII. Students will go through "Basic Training" to become a WASP.



Jerrie Cobb

A Woman's Place is in Space: The Story of the Mercury 13

What started off as a bet during a dinner party turned into a battle of the sexes as women proved they were fit to be astronauts. Learn about these incredible women and their struggle to make a woman's place in space. Students will compete in a "space race" to become the first person in space.



Sally Ride

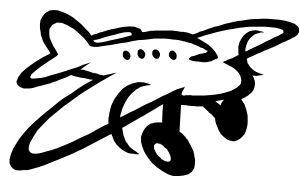
Sally Ride and Beyond

Sally Ride became the first American female astronaut to go up in space. Learn about other firsts for women in space and see what life is like aboard the International Space Station. At the end of the program students will compete against their classmates to see what they remember about women in space.

OHIO ACADEMIC CONTENT STANDARDS BENCHMARKS

Program	Grade	History						People in Societies			Geography				Social Studies Skills & meth-						
		A	B	C	D	E	F	A	B	C	A	B	C	D	A	B	C	D			
Amelia Earhart	K-2																				
	3-5																				
	6-8																				
	9-10																				
	11-12																				
WWII & WASPs	K-2																				
	3-5																				
	6-8																				
	9-10																				
	11-12																				
Mercury 13	6-8																				
	9-10																				
Sally Ride	6-8																				
	9-10																				

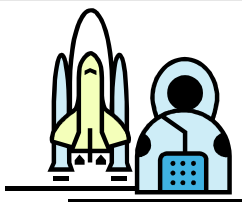
Programs at the Museum:
Looking to the Future



Head in the Clouds!

Discover what keeps an airplane in the sky. Students will learn about the Wright Brothers experiment at Kitty Hawk and have the opportunity to fly IWASM's Wright Flyer simulator. Students will also make and experiment with a variety of "flyers."

Price: \$ 3.75 per student
For up to 45 students
Each additional student \$4.00



Living & Working in Space

Learn about life aboard the International Space Station in the museum's Living & Working in Space Exhibit. Students will also learn about space travel and planets in our solar system. Program will conclude with samples of astronaut food!

Price: \$5.00 per student
For up to 45 students
Each additional student \$6.00



Today's Forecast

Discover why the weather changes and how it effects our daily lives. Students will learn why weather is important for pilots and NASA. Students will make their own weather instruments to measure weather conditions at their own home.

Price: \$4.75 per student
For up to 45 students
Each additional student \$5.00



What does an Engineer do?

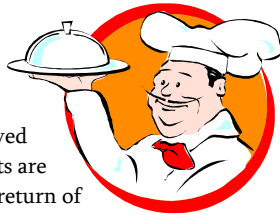
From the cell phones in our pockets to the International Space Station in space, engineers designed it all! Learn about basic engineering and how it effects our daily lives. Students will then use these concepts to build a simple machine from their own design to take home at the end of the program.

Price: \$7.00 per student
For up to 45 students
Each additional student \$7.50

OHIO ACADEMIC CONTENT STANDARDS BENCHMARKS

Grade	Subject	Earth and Space				Physical Science						Sci & Tech		Scientific Inq.			Scientific Ways				
		A	B	C	D	A	B	C	D	E	F	A	B	A	B	C	A	B	C	D	
Aviation																					
K-2																					
3-5																					
6-8																					
Space																					
K-2																					
3-5																					
6-8																					
Weather																					
K-2																					
3-5																					
6-8																					
Engineering																					
K-2																					
3-5																					
6-8																					

IWASM *TO-GO*



IWASM To-Go Kits are available on a first-come first-served basis. Reservations are required two weeks in advance. Kits are priced as marked with a \$25 deposit refundable upon the return of the kit after use. All kits are pick-up only with an additional \$15 fee for delivery. Call the Education Manager at 216-623-1111 to make a reservation, please have ready the desired date and an alternate date.

Classic Entrees



C1. Flying French Fries.....\$50.00

Bessie Coleman was the first African American woman to earn her pilot's license. Because no one would teach her in America, Bessie traveled to France to take lessons. Learn about Bessie's life through hands on activities, worksheets, and videos of Bessie in popular culture. Kit comes in a period suitcase to illustrate Bessie's life story.

C2. Cross-Continental Breakfast.....\$45.00

Amelia Earhart, though not the first female pilot, is the most identifiable and remembered aviatrix. Map her round the world trip to the point where she disappeared over the Pacific Ocean. Discover other female pilots, and Amelia's friends, also from the "Golden Age of Aviation." Kit includes the documentary *Breaking Through the Clouds* (a film on the first all female air race), worksheets, and "history sleuth" packet.



Special Entrees



SP1. Aviation House Special.....\$12.00

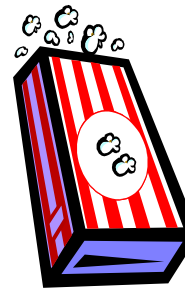
Demonstrate to your class the three basic principles of aviation. Students will make an ancient Chinese paper toy, the very toy purportedly that inspired the flying machines designed by Leonardo da' Vinci. Kit includes all supplies necessary for hands-on experiments and demonstrations along with worksheets on various female aviators.

SP2. History in a Pizza Box!.....\$25.00

Choose from a variety of documentaries focusing on the history of women in air & space. Kit includes documentary study guide, student worksheets with answer key, and further reading along with ideas for class projects. Documentary titles include: *Willa Beatrice Brown*, *Flying for Freedom*, *Christa McAuliffe*, *Space Ladies*, *Breaking Through the Clouds*, *Astronaut Pam*, *Fly Girls*, and *Wings of Their Own*. For a complete description of documentaries available visit www.iwasm.org



Appetizers



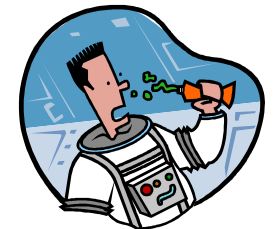
The below kits were created for the purpose of aiding as a supplement to concepts already being taught in the classroom, as such kits do not include lesson plans.

Pop, pop, pop goes the Rocket.....\$50.00

Learn about propulsion and rocketry with this fun hands-on experiment. Kit includes all materials needed to create a film-canister rocket including directions and worksheets.

Out of This World Edibles\$35.00

Learn about the eating habits of astronauts aboard the International Space Station. Kit includes kid friendly video, in-class display, and samples of space ice cream with worksheets.



IWASM Sampler.....\$25.00

Learn about the women that make IWASM possible. Kit comes with the documentary *Wings of Their Own*. The film provides an overview of all the incredible women pioneers of aviation and space. Includes study guide, worksheets, and informational booklet celebrating the 100 years of women in flight.



Having trouble finding a field trip stimulating enough to keep your high school students' attention? Want to give your older students a hands-on experience they will remember? Sharpen your students' critical thinking skills by scheduling your class for our *Student Curator* program. This program gets your students up close and personal with artifacts from IWASM's collection, giving them the opportunity to act as a museum curator.

Program includes:

- Group discussion on the role curators play in museums and interpreting History
- Tutorial on how to handle artifacts and the importance of artifact preservation
- Artifact stations with real artifacts from IWASM's collection
- Resources for students to interpret artifacts

Reservations and Program Fees

The *Student Curator* program is only available on Mondays and Fridays (no exceptions) and must be scheduled at least two weeks in advance. Program cost per student is \$10, teacher and chaperones are free. Due to the nature of this program we request that no more than 30 students participate at one time. In the event there are more than 30 students, the group will be divided and rotated between a movie on women in air & space and the program.

Know Before You Go

This program is intended for students in grades 9-12. Students will be handling real artifacts from the museum's collection and therefore we ask for one chaperone per 7 students. Students will be required to wear latex or vinyl gloves (provided by the museum) when handling objects, those unable to where the gloves due to latex or vinyl allergies will still be able to participate, but will be unable to handle the objects.

DID YOU KNOW?

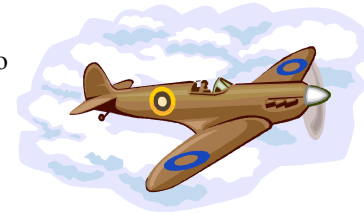
Napoleon appointed a woman, Madame Blanchard, as his Chief Air Minister of Ballooning in 1804. Women have a long history of active participation in ballooning. For instance, Connie Wolf, long-time balloonist, loaned her balloon to the motion picture producers of the movie "Around the World in 80 Days."



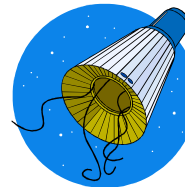
women in aviation.

The Wright Brothers' sister, Katharine, although not a pilot herself, encouraged and supported her brothers. She was one of the many "silent" women contributing to the advancement of aviation. A special exhibit on Katharine Wright is on display at the Museum. It is one of many exhibits which illustrate the historic achievements of

World War II demonstrated women's value to their countries' defense. England and the U.S. employed women pilots to fill jobs ordinarily restricted to men - to ferry aircraft from the factories to the airfield, to test aircraft, to pilot transports, to tow targets, etc. The WASP (Women Air Force Service Pilots) were a group of brave and patriotic



American women. Thirty-eight WASP gave their lives in service to the United States during WWII. These women were the forerunners of today's military women in aviation.



Valentina Tereshkova of the Soviet Union was the first woman to orbit the earth in 1963. As early as 1961, the United States