

The Wright Brothers: Miracle at Kitty Hawk

Purpose: This lesson will introduce students to the history of aviation and the life and times of the Wright Brothers.

Objectives: See attached.

Time: 3 to 5 Class Periods (45 minutes each)

Appropriate age groups: all

Number of participants: Class of 25-30 students

Materials: Internet and library access.

Description:

The lesson gives students the opportunity to explore the history of flight and the first family of flight, the Wright Brothers. Students will research different aviators and present their findings to the class.

Procedure:

Begin the lesson by showing one of two movies: “The Wright Stuff” or “This is America, Charlie Brown – The Wright Brothers at Kitty Hawk”. Both of these movies introduce the students to the lives of these two brothers.

1. At the conclusion of the movie, lead the students in a brief discussion of the film. Have the students take notes on the people and events that are discussed.
2. Divide the class into small groups for the research portion of the lesson. The groups should be comprised of 5-6 students of varying academic abilities.
3. Each group will be assigned one of the following subjects: Wilbur Wright, Orville Wright, Katherine Wright, Kitty Hawk North Carolina, and the Wright Flyer.
4. Allow time to research the subjects. Internet access and library access are needed. The goal of the research is the creation of a written report and oral presentation.
5. Encourage the students to find pictures, images, and stories they want to share with the class.
6. The oral presentation should be between five and seven minutes. Encourage students to make posters and visual aids for their presentations. Advanced students might be able to make slide show presentations using their computer lab resources.
7. The written report should be no more than two pages. Each student should turn in their own written report and their research notes for a grade.
8. At the conclusion of the research period, allow the students time to present their reports to the class.
9. When each group is finished, discuss their presentation. Have students write down notes about the presentations.

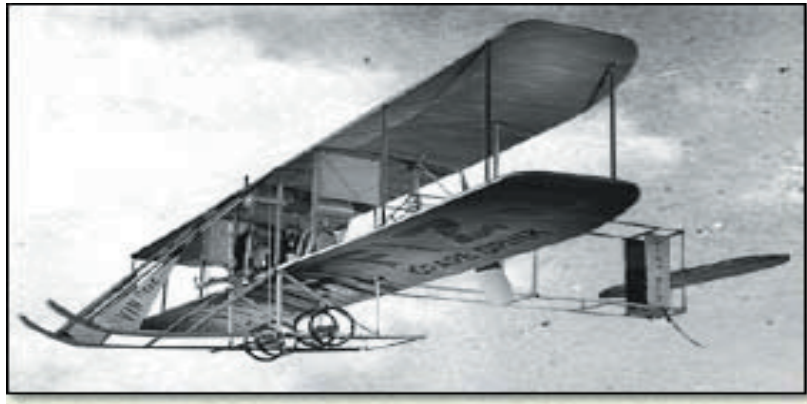


Evaluation:

1. Use a simple rubric to evaluate the project, presentation, notes and written report.

Extensions:

1. Create of a drama play that would incorporate each character's part in the first manned flight at Kitty Hawk, North Carolina. (An example of this can be found at: <http://www.faa.gov/education/wright/wright.htm>)
2. Build your own Wright Flyer:
 - a. <http://www.faa.gov/education/resource/1903fly.htm>
3. Students design and describe airplanes of the future.
4. Primary documents: <http://www.nasm.si.edu/wrightbrothers/interactiveExperiments/index.cfm>



Resources:

1. Books:
 - a. The Bishops Boys: A Life of Wilbur and Orville Wright by Tom D. Crouch, w.w. Norton & Company, 1989.
 - b. The Wright Brothers: A Biography by Fred C. Kelly, Harcourt Brace and Company 1943. Reprinted by Dover 1989.
 - c. How We Invented the Airplane: An Illustrated History by Orville Wright, Dover Publications, 1989.
 - d. Miracle at Kitty Hawk: The Letters of Wilbur and Orville Wright edited by Fred C. Kelly, 1951, reprinted 1996.
 - e. Wilbur and Orville: A Biography of the Wright Brothers by Fred Howard, Dover Pub. 1998.
 - f. The Wright Brothers: From Bicycle to Biplane by Fred C. Fisk and Martin V. Todd, 1990.
 - g. Kitty Hawk and Beyond: Wright Brothers and Early Years on Aviation: A Photographic History by Ronald Geibert and Patrick B. Nolan, 1990.
 - h. Pendulum: The Story of America's Three Aviation Pioneers – Wilbur Wright, Orville Wright and Glenn Curtiss, the Henry Ford of Aviation by Jack Carpenter.
 - i. Unlocking the Sky: Glenn Hammond Curtiss and the Race to Invent the Airplane by Seth Shulman, Harper Collins, 2002.
 - j. Dawn over Kitty Hawk: The Novel of the Wright Brothers by Walter J. Boyne, 2003.
 - k. Pacific Air Race by Robert H. Scheppler, Smithsonian, 1988.
 - l. From Oklahoma to Eternity: The Life of Wiley Post and the Winnie Mae by Bob Burke, 1998.
 - m. Wil and Orv by Walter A. Shulz, 1991.
 - n. My Brothers' Flying Machine: Wilbur, Orville, and Me by Jane Yolen, 2003.
 - o. To Fly: The Story of the Wright Brothers by Wendi Old, 2002.
 - p. The Wright Sister: Katherine Wright and Her Famous Brothers by Richard Maurer, 2003.

2. Videos:

- a. The Wright Stuff. Documentary produced by WGBH, Boston for “The American Experience” narrated by Garrison Keillor.
- b. Air Force One. National Geographic, 2001.
- c. This is America Charlie Brown. The Wright Brothers at Kitty Hawk.
- d. Black Aviators: Flying Free. The History Channel.

3. Magazines:

- a. Smithsonian Magazine. April 2003, Volume 34, Number 1. (For reprints call 1-800-766-2149.)
- b. Air and Space Smithsonian. February/March 2003, Centennial Edition, Volume 17, Number 6 (1-800-766-2149.)
- c. National Geographic. December 2003, “The Future of Flying” vol. 204, no. 6.
- d. Popular Mechanics. December 2003, “100 Years of Powered Flight” vol. 180, no. 12 (212-586-5562.)
- e. Smithsonian. December 2003, Volume 34, Number 9.
- f. Oklahoma Today. July/Aug 1998 “The Faces of Aviation” vol. 48 no. 5 (1-800-777-1793.)
- g. Century of Flight. (1-800-358-6327.)

4. Internet:

- a. www.mnaero.com/aved
- b. www.firttofly.com

