

Title of Lesson: From Kitty Hawk to the Moon

Unit of Study the lesson relates to: This lesson relates to many units. It relates to inventors and entrepreneurs of the Industrial Revolution (1870-1920), both World Wars, and especially the Cold War and Space Race.

Connection to the Frameworks:

- USII.1c – the role of business leaders, entrepreneurs, and inventors of the Industrial Revolution
- USII.15 – the major battles and events of World War II
- USII.23c – the effect of the Soviet’s launching of Sputnik
- USII.28a – the space exploration program

Materials needed: Copies for the class need to be made of the articles, President Kennedy’s speech at Rice University in 1962, and the “Aviation History Notes Guide.” Also, an overhead transparency of the Wright Brothers’ airplane is needed. (All of these materials are included with the lesson plan.)

Objectives:

- Students will be able to describe major events and topics in Aviation History.
- Students will be able to identify the Space Race and the significance of landing a man on the moon.
- Students will be able to explain how aviation has affected our history and dramatically changed the world we live in today.

The Lesson:

1. Introduce the lesson by asking students to brainstorm ways that the invention of flight affects their lives and the world today (weather forecasts, satellite technology, travel, mail, sports, war, communication...). Then put up the overhead transparency of the Wright Brothers’ airplane, and tell the students the things they thought of were made possible by this airplane that flew 100 years ago. Tell students that we will be studying the history of flight – from the Wright Brothers first flight on December 17, 1903, to the dramatic race to the moon in just over 60 years later.
2. Divide class into 8 groups. Assign each group a topic and give them copies of the article for that topic. The group will have to read the short article, and then discuss what they consider essential information to share with the class.

<u>Topics:</u>	1) Aviation Pioneers	2) The Wright Brothers
	3) World War I	4) Flying the Mail
	5) Golden Age of Aviation	6) First Ladies of Flight
	7) World War II	8) Jet Age

3. Pass out the "Aviation History Notes Guide" to each student. After about 5 – 10 minutes of group time, have each group share their essential information. As they present, the rest of the class needs to take notes on to the notes guide. After each group shares their information, briefly discuss. Go in order of topics.
4. Tell students that after the Jet Age, there was a new development in Aviation History – Space exploration. And, this happened during the height of the Cold War. (Quickly explain the Cold War if needed.) Tell students that the United States and Soviet Union were in competition to be the first to space.
5. **Optional** – show the first 5 minutes of the movie *October Sky*. The movie starts with Americans looking up into the night sky at Sputnik.
6. Pass out the copy of President Kennedy's 1962 speech at Rice University. Tell students that Russians launched Sputnik satellite, that many Americans felt there was technological gap – that the Russians were ahead. Then read Kennedy's speech. Discuss the speech and his bold goal of "putting a man on the moon before the end of the decade."
7. Finish filling out the "Aviation History Note Guide" (the Space Race section) by doing a lecturing about them. Points to make:
 - Soviet firsts – Russians were first to put a satellite in space (Sputnik, 1957); as a result, President Eisenhower forms NASA. Russians also were the first to put a human in space, orbit the Earth, and "spacewalk."
 - Mercury Project – purpose was to put an American in space; just one astronaut in capsule; 1961 Alan Shepard 1st American in space; 1962 John Glenn 1st American to orbit the Earth.
 - Gemini Project – purpose was to prepare for the moon; objectives were to gain experience in longer flights, conduct extra vehicular activities, and practice rendezvous and docking; 2 astronauts in capsule; by end of Gemini, U.S. had caught up the Soviets.
 - Apollo Project – goal was to go to the moon; 3 astronauts in capsule; used powerful Saturn V rocket; December 1968 Apollo 8 orbits the moon (good news for the country in a year full of bad news); 1969 Apollo 11 goes to the moon (by JFK's deadline); Neil Armstrong and Buzz Aldrin land on the moon; "one small step for man – one giant leap for mankind"; U.S. wins race to the moon; total of 6 missions to the moon.
8. Closing Activity – Have students brainstorm why the past 100 years of aviation have been so important. How has aviation affected our history and changed the world we live in today?
(transportation, mail, travel, business meetings, sports teams moving to the west coast, cell phones, satellites, World much "smaller", changes in warfare, air force, political and psychological victory in Space Race, space exploration, scientific discoveries...)

This lesson is for a long/double period. It may take 2 regular class periods to finish.

Sources:

Millbrooke, Anne. Aviation History. Jeppesen Sanderson, Inc; Englewood, Colorado; 1999. Pages 9-14 – 9-25.

“Celebrating a Century of Flight”. National Aeronautics and Space Administration Publication, Washington, D.C., Fall 2002. Pages 1 – 20.

Text of President John F. Kennedy’s Rice Stadium Moon Speech, September 12, 1962; (included in the “Teaching American History: Aviation” folder)

Notes from “Milestones in Flight” lecture – March 29, 2003