



Lesson 1 - Hot Air Balloon History and Research

Subjects: Language Arts, Social Studies

Learner Outcomes:

1. Prior knowledge about hot-air ballooning will be activated through a true and false pretest.
2. Students will research the invention of hot air balloons and parachutes and discuss how history was changed.
3. The students will learn to use information from multiple Internet resources to find answers and write a report.
4. The students will use the correct writing process to complete assignments.

Duration of Lesson: 3 x 40 minute lessons

Materials: Overhead Transparency of pretest and answer key – “Do You Know the Facts About Hot Air Balloons”, Pretest Master for duplication, pencils, Adventures in Air Travel Scavenger Hunt worksheet, Computer Lab, Internet Access, Creative Writer

Teacher Notes:

- Bookmark Internet sites
- [scavenger hunt key](#) on line
- download [Creative Writer](#)

Procedures:

Day 1

1. Option 1 - Duplicate copies of the Pretest – “Do You Know the Facts about Hot Air Balloons?” one/student.
Option 2 – Create an Overhead Transparency of Pretest and complete as large group activity.
2. Have students check their answers with the answer key using the Overhead Transparency. Discuss the correct answers as a class.

Day 2

1. Pass out [Adventures in Air Travel Scavenger Hunt](#) worksheets, read over.
2. Explain to students how to use the three sites bookmarked and that they will search for the answers to the worksheet on these sites. Example: Leonardo da Vinci was an artist that sketched a parachute 300 years before the actual invention.
3. Students will work independently at computers.



Day 3

1. Students open Creative Writer on computers and follow instructions for creating a newspaper.
2. Students will choose an approved topic from their Research/Scavenger Hunt worksheet to write a short story.
3. Students will work in groups of 3 to compose a newspaper.
4. Students will include clip art.

Evaluation/Assessment: Pretest, Scavenger Hunt worksheet, Newspaper article, Printed Newspaper

West Virginia IGO's:

Language Arts: RLA 3.1.8, 3.1.10, 3.1.14, 3.2.2, 3.2.3, 3.2.4, 3.2.10, 3.2.12

Social Studies: SS 3.5.1, 3.5.4, 3.5.6

Technology: TEC 3.3.1, 3.3.3, 3.5.1

References:

Inventor's Home page

<<http://inventors.about.com/library/inventors/blparachute.htm>>

Air Travelers: History Timeline (given below with most recent round the world flight and can also be found at <<http://omsi.edu/visit/physics/air/gallery/timeline.html>>

Leonardo's Visions of the Future

<http://www.mos.org/sin/Leonardo/VisionoftheFuture.html>

Additional websites for information and reference:

http://www.chm.bris.ac.uk/webprojects2003/hetherington/final/Hot_air_balloon_parts.html

<http://travel.howstuffworks.com/hot-air-balloon1.htm>

<http://simplethinking.com/teaching/hotairballoons.shtml>

<http://travel.howstuffworks.com/hot-air-balloon7.htm>

Adapted from lesson:

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Do You Know the Facts About Hot Air Balloons?

Place a (T) for True or a (F) for False next to each statement.

- _____ 1. Hot air balloons were discovered in New York City in 1783.
- _____ 2. Joseph and Etienne Montgolfier found that a fabric bag filled with cool air would rise.
- _____ 3. The two brothers started experimenting with manned balloons.
- _____ 4. The first balloon to carry passengers had a sheep, rooster, and a duck on board.
- _____ 5. The first manned balloon traveled over Paris for 100 miles. It stayed up for 23 minutes.
- _____ 6. Balloons have played an important part in science. They have helped us to study weather and the atmosphere.
- _____ 7. A hot air balloon consists of two main parts, the envelope and the propeller.
- _____ 8. The balloon is attached by cords called flying wires, to the basket to the balloon.
- _____ 9. A skirt around the bottom of the envelope helps direct the hot air away from the balloon.
- _____ 10. Each long section of the balloon's envelope is called the gore.
- _____ 11. Smaller pieces of the gore are called panels.
- _____ 12. Every balloonist must carry a parachute.

Name _____



The Facts about Hot Air Balloons!

Answer Key

All these statements are now true. Look at the false statements to see how they were corrected to learn the true facts about Hot Air Ballooning.

- F 1. Hot air balloons were discovered in **France** in 1783.
- F 2. Joseph and Etienne Montgolfier found that a fabric bag filled with **hot** air would rise.
- F 3. The two brothers started experimenting with **un**manned balloons.
- T 4. The first balloon to carry passengers had a sheep, rooster, and a duck on board.
- F 5. The first manned balloon traveled over Paris for **5.5** miles. It stayed up for 23 minutes.
- T 6. Balloons have played an important part in science. They have helped us to study weather and the atmosphere.
- F 7. A hot air balloon consists of two main parts, the envelope and the **basket**.
- T 8. The balloon is attached by cords called flying wires, to the basket to the balloon.
- F 9. A skirt around the bottom of the envelope helps direct the hot air **into** the balloon.
- T 10. Each long section of the balloon's envelope is called the gore.
- T 11. Smaller pieces of the gore are called panels.
- F 12. Balloonist do not carry separate parachute. The top circle of the balloon is called a parachute.



Adventures in Air Travel Scavenger Hunt

1. _____ was the artist that sketched a pyramid parachute 300 years before it was invented.
2. Jacques and Joseph _____ sent the first balloon 6,000 feet in June _____.
3. In 1783, _____, of France, was credited with the demonstration of the first parachute jump.
4. The first unmanned hydrogen balloon was launched on August 27, 1783 by Jacques _____.
5. The first manned flight was on _____.
6. The first American to fly in a balloon was _____ on November 30, 1784.
7. The first person to ascend in a hot air balloon on American soil was _____, on June 23, 1784.
8. Edward Warren was _____ years old.
9. On January 9, 1793, Jean-Pierre Blanchard ascended from a _____ with a crowd watching that included President _____.
10. Balloon travel was overshadowed on December 12, 1903 when the _____ flew the first _____ at Kitty Hawk, North Carolina.
11. In 1929, Captain Turner landed his _____ with a parachute.
12. The "first woman in space" piloted the *Century of Progress* on October 23, _____.
13. On October 22, 1960, in South Dakota, the first modern hot-air balloon was launched. It was safer and less expensive than the Montgolfier balloon because it was constructed out of _____ and heated with _____.

14. In 1980, Maxie and Kris Anderson set a new record overland in a helium balloon which lasted _____ days.
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Answer Key

Adventures in Air Travel Scavenger Hunt

1. Leonardo da Vinci was the artist that sketched a pyramid parachute 300 years before it was invented.
2. Jacques and Joseph Montgolfier sent the first balloon 6,000 feet in June 1783.
3. In 1783, Louis Sebastien Lenormand, of France, was credited with the demonstration of the first parachute jump.
4. The first unmanned hydrogen balloon was launched on August 27, 1783 by Jacques Charles.
5. The first manned flight was on November 21, 1783.
6. The first American to fly in a balloon was Dr. John Jeffries on November 30, 1784.
7. The first person to ascend in a hot air balloon on American soil was Edward Warren, on June 23, 1784.
8. Edward Warren was 13 years old.
9. On January 9, 1793, Jean-Pierre Blanchard ascended from a prison yard with a crowd watching that included President George Washington.
10. Balloon travel was overshadowed on December 12, 1903 when the Wright brothers flew the first airplane at Kitty Hawk, North Carolina.
11. In 1929, Captain Turner landed his plane with a parachute.
12. The "first woman in space" piloted the *Century of Progress* on October 23, 1934.

13. On October 22, 1960, in South Dakota, the first modern hot-air balloon was launched. It was safer and less expensive than the Montgolfier balloon because it was constructed out of nylon and heated with propane.
 14. In 1980, Maxie and Kris Anderson set a new record overland in a helium balloon which lasted 4 days.
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Hot Travelers



History Timeline

- 1783**
 - **June 5** Jacques-Etienne and Joseph-Michel Montgolfier fill a linen bag with smoke from a straw fire and watch their first balloon fly up to an altitude of 6,000 feet.
 - **August 27** Jacques A.C. Charles launches his first unmanned hydrogen balloon. The balloon rises to an altitude of 3000 feet and travels 15 miles.
 - **November 21 Paris.** J.F. Pilatre de Rozier and the Marquis d'Arlandes make the first manned flight in a balloon.
 - **December 1 Paris.** Professor J.A.C. Charles and Professor Robert rise above the Tuileries gardens in the Charles's first hydrogen balloon. Because gas balloons are relatively safer, they become the balloon of choice for the next 175 years.

- 1784**
 - **November 30 London.** Dr. John Jeffries is the first American to ascend in a balloon.
 - **June 23 Baltimore.** The first person to ascend in a balloon on American soil was a thirteen-year-old boy, Edward Warren. The balloon was held in place from the ground with a tether.

- 1785**
 - de Rozier dies flying a double balloon, one envelope filled with hot air and the other filled with hydrogen. The fire needed to heat the hot air ignites the highly flammable hydrogen gas in the second balloon.

- 1793**
 - **January 9 Philadelphia** Jean-Pierre Blanchard, a Frenchman, ascends from the Philadelphia prison yard in front of a crowd including President George Washington.

- 1903**
 - **December 12 Kitty Hawk, North Carolina.** The Wright brothers make the first airplane flight, overshadowing the achievements of lighter-than-air flight.

- 1934**
 - **July 28 Black Hills, South Dakota.** The U.S. Army Air Corps and the National

Geographic Society sponsor the experimental flight of *Explorer I*, which ascends to an altitude of 60,613 feet before tearing and plummeting back to earth.

- **October 23** Jeanette Piccard successfully pilots the *Century of Progress* to an altitude of 57,559 feet. She may be called the "first woman in space".



Hot Travelers 2

- 1935** • **November 11** *Black Hills, South Dakota Explorer II* ascends to a new record altitude of 72,395 feet (13.7 miles).
- 1937** • **May 6** *New York. Hindenburg* bursts into flame while descending into its port. Sixty-one people survive by jumping from the burning dirigible.
- 1960** • **October 22** *Sioux Falls, South Dakota.* Ed Yost launches his first modern hot-air balloon, made with rip-resistant nylon and equipped with a propane heating system. The new "Montgolfier" is safe and less expensive to operate than gas balloons. Yost's balloon design heralds a new era in lighter-than-air flight.
- 1968** • The Federal Aviation Administration approves the new hot-air balloon designs manufactured by Raven Industries and Don Piccard, son of [Jeannete Piccard](#).
- 1980** • **May 12** *San Francisco.* Maxie Anderson and his son Kris make a record overland helium balloon flight. The trip lasts four days and ends near Matane, Quebec, Canada, 3,100 miles from their launch site.
- 1999** ➤ **Breitling Orbiter III**, Bertrand Piccard of Switzerland and Brian Jones of Britain took off Monday March 1, 1999 from Chateau d'Oex in the Swiss Alps and as of March 14, 1999, 18:00 GMT unofficially broke Steve Fossett's distance record and Andy Elson's recent duration record. More importantly, they did it! Bertrand and Brian have now become the only balloonists to circumnavigate the globe with a non-stop, non-refueled flight. It has taken the Breitling team 20 days, 1 hour and 49 minutes to travel the 42,810 kilometers. On March 20, 1999, The Breitling Orbiter III, at 0954 (GMT) hours passed the "finishing line" of 9.27 degrees over

Mauritania, North Africa, completing their "round the world balloon trip". They went on to land in Egypt.
