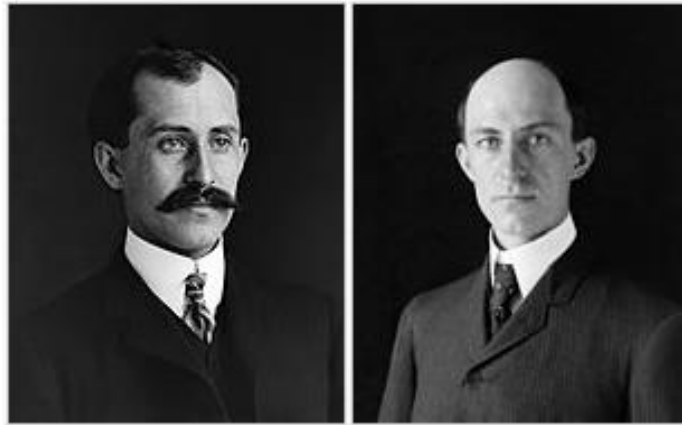


Name: _____ Date: _____

Wright Brothers



Overview: Wilbur and Orville Wright were brothers who are credited with creating the world's first controlled airplane. Their first powered and controlled flight took place on December 17th, 1903.

Childhood: Wilbur Wright was born on April 16th, 1867 in Indiana and Orville was born on August 19th, 1871. They were of German, Swiss, and Dutch ancestry. Their parents were Milton Wright and Susan Catherine Koerner. The brothers were two of seven children.

Toy: The Wright brother's father traveled around the country as a bishop for a local church and one day he brought them back a toy helicopter. The toy was the design of French aeronautical pioneer Alphonse Penaud. The boys played with the helicopter until it broke and then the brothers built their own. The Wright brothers said this experience sparked their interest in flying.

School: Both of the Wright brothers went to high school although they did not receive diplomas. After sustaining a hockey injury Wilbur dropped out of high school and did not attend Yale as he had planned but rather stayed home and took care of his mother who had tuberculosis. After Orville dropped out of school the brothers started their own printing business and newspaper.

Business: After the newspaper printing business did not work out the brothers started their own bicycle repair shop. While working at the bicycle shop they read about people testing out gliders and Leonardo da Vinci's early experiments with flying. After reading about this the brothers requested information from the Smithsonian and began working on creating their own design.

Control: The brothers had learned valuable skills about control while working in the bicycle shop. They were convinced they could find a way to control an airplane similar to how someone controls a bicycle. Before building a powered airplane they decided to work on a control system with a glider.

Start: In July 1899 Wilbur tested out a biplane kite which had a 5 foot wingspan. After he successfully controlled the kite with four chords the brothers decided it was time to try the control system on a glider.

Kitty Hawk: In 1900 the brothers went to Kitty Hawk, North Carolina to begin their manned flight experiments. They chose Kitty Hawk because of its constant breeze, soft ground, and privacy. Chicago engineer Octave Chanute also provided some assistance and guidance during these early stages. Over the next few years they used 3 gliders to work on its control and design. They did most of their gliding from Kill Devil Hills, which were a group of 100 foot high sand dunes. Wilbur did most of the gliding as to protect his younger brother from possible injury.

Wright Flyer I: In early 1903 the brothers designed and created their first powered airplane. The plane was known as Wright Flyer I and had a wingspan of 40 feet, weighed 605 lbs. and had a 12 horsepower engine. The most difficult parts the brothers had in designing it were making and getting the propellers to work and finding a light weight engine. At this time their longtime friend Charlie Taylor also began assisting with the design.

First Flight: On December 14th Wilbur won a coin toss to be the first one to try the new airplane. As he was taking off the engine stalled and he was unable to make a takeoff for more than a few seconds. After making some minor adjustments the Wright brothers had their first flight on December 17th, 1903. The first flight was by Orville which lasted 12 seconds and covered an area of 120 feet. Wilbur followed by making two more flights which were 175 and 200 feet in distance.

Witness: The first flight was witnessed by 5 people. The men were Adam Etheridge, John T. Daniels and Will Dough who were all from the US government. They were accompanied by businessman W.C. Brinkley and a teenage boy from the area named Johnny Moore. John T. Daniels took the famous picture of the first flight. The news of their success was slow to reach newspapers and few people knew about it at first.

Wright Flyer II: In 1906 the Wright brothers returned to Dayton, Ohio to work on their second airplane. They used a cow pasture to trial their new planes. Soon skepticism about their flights began to come out and even the US government passed up opportunities to have the Wright brothers design airplanes for them.

Europe: During this time there was more interest in flying in Europe and especially France. After people in France heard about the Wright brother's flight the newspapers reported it as fake news. The brothers then traveled to Paris and demonstrated a flight, which proved the papers wrong and got them much more attention.

Public: On August 8th, 1908 the brothers had their first public flight in Le Mans, France. The first flight lasted 45 seconds and amazed the crowd. Later that fall Edith Berg became the first woman to fly on one of the Wrights planes. The brothers continued to have public showings throughout the world, and on May 25th, 1910 the brothers took their only flight together.

Patent: After their success the brothers were able to win a lawsuit for their patent of the three axis control system of flying an airplane. The brothers then created the Wright Company, but they sold the company in 1915. The patent number was 821,393.

Memorial: The site of the first flights is preserved in North Carolina as part of the Wright Brothers National Memorial. In Ohio their facilities are preserved as part of the Dayton Aviation Heritage National Historic Park.



Review Questions

1. Who is credited with creating the world's first controlled airplane?

2. When did the first powered controlled flight take place?

3. When were Wilbur and Orville wright born?

Wilbur: _____

Orville: _____

4. What did their father bring them back one day after traveling around which inspired their interest in aeronautics?

- a) giraffe
- b) balloon
- c) toy helicopter
- d) submarine

5. Did the wright brothers receive high school diplomas?

6. What illness did their mother have?

- a) cancer
- b) tuberculosis
- c) asthma
- d) broken leg

7. What type of shop did the brothers start after the newspaper business did not work out?

- a) card shop
- b) bicycle shop
- c) party store
- d) general store

8. Where did the request information from about Leonardo da Vinci's early experiments?

9. Where did the brothers go in 1900 to test out their designs?

10. What are a few reasons they picked this location for their test flight?

11. Who did most of the gliding during the early test flights?

- a) Wilbur
- b) Orville
- c) James
- d) Jonathon

12. What was the name of their first powered airplane they created in 1903?

13. How many people witnessed the first flight?

14. Where did they return to in 1906 to work on their second airplane?

- a) Boston, MA
- b) Chicago, IL
- c) Dayton, Ohio
- d) New Mexico

15. What European city did they travel to in order to demonstrate their airplane?

- a) Paris, France
- b) London, England
- c) Berlin, Germany
- d) Rome, Italy

16. When did they take their only flight together (Orville and Wilbur)

17. When did they sell their Wright Company?

18. What are the two memorials and parks they have dedicated in their names?

True or False – decide if each statement is true (T) or false (F)

1. The Wright brothers were from Ontario, Canada. _____
2. The first controlled flight took place on December 17th, 1903. _____
3. The Wright brothers were inspired at an early age in flight after playing with a toy helicopter. _____
4. After the newspaper business failed they brothers started a car company. _____
5. In 1900 the brothers went to Kitty Hawk, North Carolina. _____
6. Orville did most of the flying. _____
7. The brothers did demonstrations in France. _____
8. The first flight was witnessed by 12 people. _____
9. The brothers went to Ohio to test their second airplane. _____
10. They sold the Wright company in 1915. _____

Vocabulary: Define each word or use it in a sentence

Bishop - _____

Glide - _____

Propeller - _____

Aeronautics - _____

Patent - _____

Wright Brothers Word Search

N G J D O R H S C M Q I G J I P N
E O L I R P A R I S H T F F C R H
S M R I I Q Y I S H W A G A U O D
I Q X T D K X W I U Y H U Q R P Q
J M P K H E N U U Z Q K F A U E F
E F K A B C U D A W O L B S Q L S
Y D G H A O A I C U W L N P K L Y
W T H M S Z R R V I R A A M P E Y
I P H K D P V Y O U E L L I V R O
W N O G L C N M B L I E J A V T Y
M T B A I W K L O N I O E K Y K N
T R N E R L I E H P A N J K K P Y
H E C J W W F A I T D S A H N F K
G U S X V H G I O K A U V D Q Q I
I U L H L K T A L D S U L H D K F
R J V V X W X W A Y R C Z H J A L
W P O H I Z L P U U R I P N F W S

AIRPLANE

FLIGHT

GLIDE

NORTHCAROLINA

OHIO

ORVILLE

PARIS

PROPELLER

WILBUR

WRIGHT