

# Inventors, Inventions & Pilots

## Daniel Bernoulli

Daniel Bernoulli was born on 8th February, 1700 in the Netherlands and he died on 17th March, 1782 in Switzerland.



Daniel's father Johann said there was no money in maths and sent him to study medicine in Basel in Switzerland. While he studied medicine, he studied his father's theories on Kinetic energy. He applied this to his medical studies and wrote on how breathing worked.

Daniel tried to get jobs in maths but failed so he went to Venice to study practical medicine. While there, he got sick and worked on maths instead. He published *Mathematical exercises*. He wrote about the flow of water from a container and discussed Newton's Theories. His medical work on the flow of blood and blood pressure also gave him an interest in fluid flow.

He also designed an hourglass to be used at sea that the trickle of sand always remained the same, even when the ship was in heavy seas. He won a prize for this in Paris. Because of this, he got offered a job in Russia along with his brother. However eighteen months later his brother died and he was very sad. His father sent his pupil Euler in 1727 to work with him. For the next six years, Bernoulli produced a lot of his best work.

Daniel entered for the *Grand Prize* of the Paris Academy in 1734, presenting his ideas on astronomy. His father also entered the competition and he and Daniel were joint winners. As a result, Daniel's father banned him from the house!

When a giant airplane leaves the ground and becomes airborne, Daniel Bernoulli's principle comes into play - only Bernoulli used liquid instead of air.

## Otto Lilienthal



Otto Lilienthal was a German engineer who is best known for his glider research and flights. He was the first person to launch himself into the air and fly.

Lilienthal was born in Anklam, Germany, in 1848. He built his first glider in 1891, and his "normal" glider was first constructed in 1894.

Lilienthal was killed on August 8th, 1896, when he stalled and crashed to the ground while gliding.

In 1893, Lilienthal built a flapping wing machine driven by a motor based on the action of a bird's wing. He began to build gliders. Lilienthal became the top expert on gliders in Germany and gliding became a popular sport.

## Louis Bleriot



Louis Bleriot was born in Cambrai ( France ) on July 1st 1872.He decided that he would study engineering in Paris. He turned into an inventor, an aircraft designer and a pilot.

Louis Bleriot was best known for being the first person to fly over a big body of water He flew over the English Channel on July 25th 1909. In 1900 Louis built a motor~powered machine called an ornithopter (it didn't work!).

A £1000 prize was being offered in Newspapers for the first person to cross the English Channel. Louis decided to try it. He made a monoplane (It was his 4th one .) He called it Bleriot XI (of Coarse he won it). It took him 36 minutes and 55 seconds.

Louis then bought aeronautical design and engineering in 1914. Then he called it Societe Pour Aviationetses Derives (SPAD).During WW1 SPAD built more then 5,600 aircrafts. Louis Bleriot died on August 2 1936.

## Amy Johnson



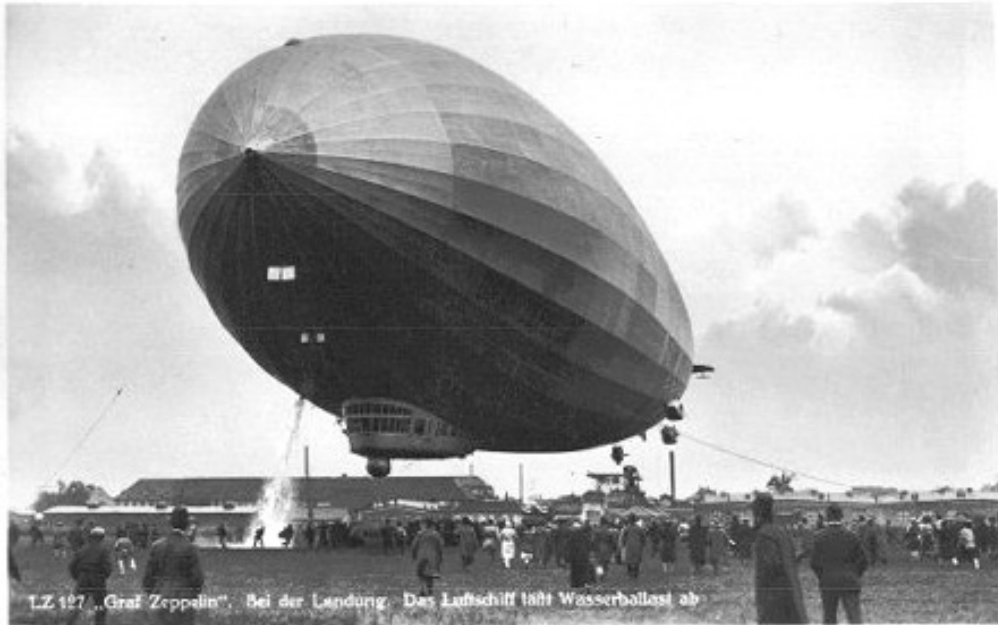
Amy Johnson was Born on July 1, 1903, in Yorkshire and lived there until she went to Sheffield University in 1923 to read for a B.A. After graduating, she moved on to work as a secretary for a solicitor, where she became interested in flying.

Amy learnt to fly at the London Aeroplane Club in the winter of 1928-29. She wanted to prove that women were as good as men. Her first achievement after flying solo, was to qualify as the first woman G.E. (ground engineer).

### **Amy's Achievements!**

- Amy was the first woman to fly from Britain to Australia;
- She was the first pilot to fly from London to Moscow in one day;
- Then she set a record time for flying from England to Japan;
- Amy married the famous British pilot Jim Mollison who proposed to her during their flight;
- She also set a record for the flight from England to South Africa, breaking her husband's record
- With her husband she flew nonstop from South Wales to U.S.A. However their plane ran out of fuel and crashed, injuring both of them.

## Graf Zeppelin



Count Ferdinand of Zeppelin is probably one of the most famous pioneers of aviation. He was very popular among his fellow citizens although at first many of them called him "foolish count," because they didn't believe his inventions would work. But as soon as the first Zeppelin flew, the small, fat count that had a bald head and a white moustache was celebrated by everyone. He wore a blue uniform and white sailor's cap.

Ferdinand Graf Zeppelin was born on July 8th 1838 in Constance on lake Constance. As a twelve-year-old boy, he began to be more and more interested in technology. From the age of 17 onwards he attended the military education. He served in the army willingly and dependably, that's why he was appointed first lieutenant in 1858. In February 1863 he moved to the USA to get some more military education. The civil war was going on in the USA at the time. In August 1863 he flew with a hot-air ballon for the first time, which reached a height of 700 metres, which was very high for that time. This experience heightened his interest in aeronautics. He got an idea to build an airship from a friend. At first he thought of an "air train" with wagons that could be connected and taken off as required. This idea was patented and in 1899, construction was started. During the construction, the "air train" transformed gradually into a Zeppelin.

In 1900 the first Zeppelin took off above Lake Constance.

Graf Zeppelin died on the 8th of March 1917.

## Charles Lindbergh

Charles Augustus Lindbergh was born on 4th February 1902 in Detroit U S A.



Lindbergh trained with the U.S navy in 1919 to be a pilot. A prize was afford of \$25,000 for the first person to fly from New York to Paris non-stop. On may 21st 1927 Lindbergh in his plane The Spirit of St.Louis flew across the Atlantic ocean to Paris. Charles won a medal and became famous.

He died of cancer on the 26th August 1974.

## Frank Whittle



Frank Whittle was born on June 1st, 1907. He joined the Royal Air Force (RAF) as a boy and became a test pilot in the RAF. He invented the jet engine in 1930, then joined other people, started a company and called it Power Jets LTD. He tested his first jet engine in 1937.

In 1944 the British government took over Power Jets LTD. The engines were used by the RAF against Germany.

Frank Whittle retired from the RAF in 1948. In 1977, he became a research professor at the U.S Naval Academy.. He was awarded the Order of Merit in 1986 by the British government. He wrote a book called: THE STORY OF A PIONEER which was published in 1953.

He died in August 9th 1996.



## The Montgolfier Brothers



The first ever hot-air balloon was made in 1782. Joseph and Etienne Montgolfier discovered it. It all started by Joseph throwing some scraps of paper into the fire. Suddenly Joseph cried out, "Sacre Bleu!". Then he decided to make a "flying balloon". He said that because hot air rises, it could lift things up. So they made a balloon and went outside and they put some straw in the basket. They set it on fire and it flew away.

It landed in a field nearby. The man who owned the field thought that it was an alien. He started shouting. The next day everybody knew about the balloon and they told the King.

They wanted to make a balloon big enough to fit people in. Many people said it was impossible. They made the balloon from pure silk and it was fifteen metres high. They also painted it like an Easter egg.

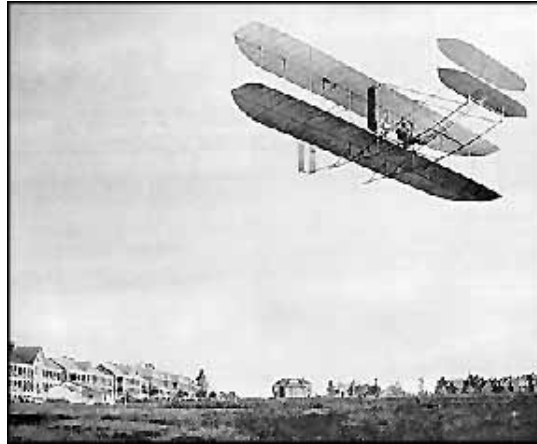
On 19th September 1783, a sheep, duck and a rooster set off in the hot-air balloon.

A few hours later there was a loud CRASH!!!! The balloon landed in a forest. The sheep and duck were O.K., but the rooster was hurt. Etienne was very upset, he loved the rooster. The doctor looked at him and said he was going to live. All the animals got a medal and a special barn.

On 21st November 1783, a scientist went to visit Joseph and Etienne. He wanted to be the first man to go in a balloon. Etienne said no because it was too dangerous, but De Rozier would not give up. He said, "If animals can do it, man can too." So they made up a new balloon and Jean de Rozier was the first person to fly. This balloon was called Montgolfi & Egraverie.



## The Wright Brothers



Wilbur Wright was born in Millville, Indiana in 1867. He and his younger brother Orville made simple mechanical toys. They built a large printing press in 1888. The next year, they printed a newspaper in Dayton, Ohio. It was called West Side News.

Orville Wright was born in Dayton, Ohio in 1871. In 1901 his big improvement for aircraft was the development of the wind tunnel.

In September 1900 at Kill Devil Hills, they tried out their own glider. In 1901, they tested out air pressure over 200 different wing surfaces. In 1902, at Kitty Hawk, they discovered a plane could be balanced better with a pilot than with various engineering devices.

In 1903, they made the first propeller, which was 35% more effective than other propellers of the time. After that they built a 247kg airplane with a 12 horsepower motor. They then made the first powered flight in history. In 1908, Wilbur set a new distance and altitude record for flight in France. In 1910, Orville completed 57 circles at an altitude of 36.6 metres. He also formed the Wright exhibition team, in which pilots which Orville had trained performed in Wright planes. This same year, Wilbur tried to produce a plane that would fly for 10 minutes at a speed of 40mph.

Wilbur died on May 30th, 1913 of Typhoid Fever. After his brother's death, Orville became president of the American Wright Company and three years later, he sold his stock for \$500,000. Orville died in Dayton, Ohio on 30th January, 1948.