

The Wright Brothers

Wilbur and Orville Wright were inventors who are famous for completing the first successful flight of a controlled aeroplane with an engine. The Wright brothers flew an aeroplane for 12 seconds on 17th December 1903 and became known as the 'fathers of modern **aviation**' due to their work with aircraft.



Early Life

Wilbur Wright was born in 1867 and Orville was born in 1871. The brothers were from a family of five children and they grew up in Ohio, USA. Some people said that Wilbur was quiet, intelligent and serious while Orville was curious, confident and adventurous. Their father, Milton Wright, was a bishop of the church. Milton encouraged the two brothers to read a variety of books and to find solutions to problems. Wilbur and Orville claimed that he was a great influence on their lives. He travelled regularly and often brought back toys for his children. In 1878, he brought back a toy helicopter made of cork, bamboo and paper. The toy fascinated the brothers and their interest in flying machines began.

Previous Attempts at Flight

Records of attempted flight can be found from over 2,000 years ago and include tower jumping and kite flying. One of the earliest Greek myths known describes a cautionary tale of a boy, Icarus, who flew too close to the sun. Leonardo Da Vinci, a famous artist, sketched different designs for flying machines that were inspired by the flapping of birds' wings - unfortunately, these were never built. Otto Lilienthal was a German inventor who designed and flew the first **glider**. Modern hang gliders are based on his machines.



The First Flight

The Wright brothers studied the work of other inventors, like Otto Lilienthal, when creating their own designs. Wilbur and Orville noticed that birds angled their wings for balance and control, so they tried to copy this in their designs, developing an idea called 'wing warping'. The brothers travelled to Kitty Hawk, North Carolina, to test the aeroplanes that they had built. The town was windy and close to **sand dunes**. In 1903, Wilbur and Orville had designed and built 'The Wright Flyer'. On its first flight, it stayed in the air for 12 seconds and there were five **spectators** nearby. The Wright brothers persevered and repeated their attempt to fly throughout the day. On the final flight of the day, Wilbur flew the aeroplane for 59 seconds at a height of 852 feet; this is nearly twice the height of Blackpool Tower. It was an incredible achievement.



Later Life

The Wright brothers continued to improve their designs and, by 1905, they had built an aeroplane that could fly for 39 minutes. It is thought that their success was not appreciated immediately by the public. There were people who refused to believe what had happened and, as a result, the brothers decided to go to Europe to sell their designs. The Wright brothers became quite wealthy before returning to the USA to sell aeroplanes to the US army. Wilbur lived until he was 45 years old; Orville continued their work and won many awards and honorary degrees. He spent a lot of his later years defending their title as the first inventors of the aeroplane.

Glossary

aviation:	The flying of an aircraft.
glider:	A light aeroplane that flies without using an engine.
sand dunes:	A ridge of sand created by wind.
spectator:	A person who watches a show, game or event.

Questions

1. What did the Wright brothers become known as? Tick one.

- ☐ the brothers of aviation
- ☐ the flying brothers
- ☐ the fathers of modern aviation
- ☐ the Wright wings

2. Number the events from 1-5 to show the order in which they appear in the text. The first one has been done for you.

- ☐ Orville continued their work and won many awards.
- ☒ 1 Wilbur Wright was born in 1867 and Orville in 1871.
- ☐ Wilbur and Orville noticed that birds angled their wings for balance and control.
- ☐ Milton Wright brought back a toy helicopter.
- ☐ The town was windy and close to sand dunes.

3. Find and copy **three** words that the author uses to describe Wilbur Wright.

- _____
- _____
- _____

4. Fill in the missing word.

Wilbur and Orville claimed that he was a great _____ on their lives.

5. Who sketched designs that were inspired by the flapping of birds' wings?

6. Imagine how the spectators would have felt when they witnessed the first flight.

7. Predict how aviation might develop in the next 100 years.

8. Summarise the Wright brothers' greatest accomplishment in one sentence.

Answers

1. What did the Wright brothers become known as? Tick one.

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- ☐ the flying brothers
- ☒ **the fathers of modern aviation**
- ☐ the Wright wings

2. Number the events from 1-5 to show the order in which they appear in the text. The first one has been done for you.

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- 1** Wilbur Wright was born in 1867 and Orville in 1871.
- 3** Wilbur and Orville noticed that birds angled their wings for balance and control.
- 2** Milton Wright brought back a toy helicopter.
- 4** The town was windy and close to sand dunes.

3. Find and copy **three** words that the author uses to describe Wilbur Wright.

- **quiet**
- **intelligent**
- **serious**

4. Fill in the missing word.

Wilbur and Orville claimed that he was a great **influence** on their lives.

5. Who sketched designs that were inspired by the flapping of birds' wings?

Leonardo da Vinci sketched designs inspired by the flapping of birds' wings.

6. Imagine how the spectators would have felt when they witnessed the first flight.

Pupils' own responses, such as: I think that the spectators would have felt excited and amazed as they would have never seen anything like that before. They might have also felt a little bit nervous in case something went wrong.

7. Predict how aviation might develop in the next 100 years.

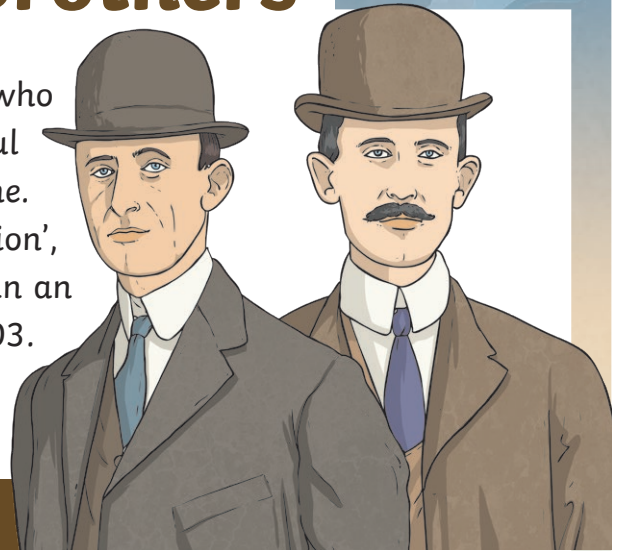
Pupils' own responses, such as: I think that aviation will continue to develop quickly in the next 100 years. I think that there will be an increase in space travel and people will begin to visit other planets and the Moon.

8. Summarise the Wright brothers' greatest accomplishment in one sentence.

Pupils' own responses, such as: The Wright brothers' greatest accomplishment was that they were the first to design, build and fly a controlled plane with an engine.

The Wright Brothers

Wilbur and Orville Wright were inventors who are famed for completing the first successful flight of a controlled aeroplane with an engine. Known today as the 'fathers of modern aviation', the Wright brothers achieved sustained flight in an aeroplane for 12 seconds on 17th December 1903. Their innovative work led to many advances in flight technology.



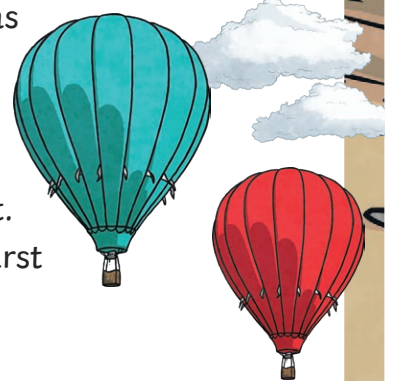
Early Life

Wilbur Wright was born in 1867 and Orville was born several years later in 1871. They were from a family of five children and grew up in Dayton, Ohio. Wilbur was quiet, intelligent and serious while Orville was curious, confident and enjoyed challenges. Their father, Milton Wright, was a bishop of the church. Milton encouraged the two brothers to read widely and to think critically about problems. The brothers later said that he had been a great influence on their lives.

Milton Wright travelled regularly and often brought back toys for his children. In 1878, he brought them a toy helicopter made of cork, bamboo and paper which was powered by a rubber band. The toy fascinated the brothers and sparked their lifelong passion for flying. Interestingly, instead of going to university after school, the brothers opened their own bicycle repair shop. It was there that they began to explore how to fly an aeroplane and they used some of their experience to sketch their own designs.

Previous Attempts at Flight

Records of attempted flight can be found from over 2,000 years ago and include tower jumping (humans attaching birdlike wings to themselves and jumping from a tower) and kite flying. One of the earliest Greek myths known describes a cautionary tale of Icarus; a boy who flew too close to the sun. Leonardo Da Vinci (a famous artist) designed flying machines known as ornithopters that mimicked the flapping of birds' wings - unfortunately, they were never built. Otto Lilienthal, a German inventor, designed and flew the first **glider**. Modern hang gliders are based on his machines.



The First Flight

The Wright brothers studied the work of other successful inventors, such as Otto Lilienthal, for inspiration in their work. Wilbur and Orville observed that birds angled their wings for balance and control and tried to imitate this in their designs, developing an idea called 'wing warping'. The brothers journeyed to Kitty Hawk, North Carolina, to test the aeroplanes that they had built. The town was isolated, windy and close to sand dunes. In 1903, Wilbur and Orville had designed and built the 'Wright Flyer'. On its **debut** flight, the aeroplane was sustained in flight for 12 seconds with five spectators to witness the moment. The Wright brothers were not disheartened and persevered throughout the day. On the final flight of the day, Wilbur flew the aeroplane for 59 seconds at a height of 852 feet; this is nearly twice the height of Blackpool Tower. It was an incredible accomplishment.



Later Life

The Wright brothers continued to improve their designs and, by 1905, they had built an aeroplane that could fly continuously for 39 minutes. It is thought that the brothers' success was not recognised immediately by the public. Some people refused to believe what had happened and, as a result, they went to Europe to sell their designs. The Wright brothers became quite wealthy before finally returning to the USA to sell aeroplanes to the US army. Wilbur lived until he was 45 years old; Orville continued their work and won many awards and honorary degrees. He spent a lot of his later years defending the brothers' title as the first inventors of the aeroplane. It is widely agreed today that the inventions of the Wright brothers are the foundation of modern aviation.

Glossary

aviation:	The flying of an aircraft.
glider:	A light aeroplane that flies without using an engine.
debut:	A first appearance or performance.

Questions

1. Where did the Wright Brothers grow up? Tick one.

- ☐ New York
- ☐ Ohio
- ☐ Florida
- ☐ Texas

2. Draw **four** lines and complete each sentence.

Known today as
the 'fathers of
modern aviation'...

read widely and to think
critically about problems.

Milton encouraged the
two brothers to...

ornithopters that mimicked
the flapping of birds' wings.

The brothers found that
their success...

the Wright brothers achieved
sustained flight in an
aeroplane for 12 seconds.

Leonardo da Vinci
designed flying machines
known as...

was not recognised
immediately by the public.

3. The author describes Wilbur Wright as quiet, intelligent and serious.
Think of another word that could describe him.

4. **In 1878, Milton Wright brought them a toy helicopter.**

Why was this an important moment for the Wright brothers?

5. Fill in the missing words.

Records of _____ flight can be found from over _____ years ago.

6. Comment on why the Wright brothers chose Kitty Hawk to test their aeroplanes.

7. What does the phrase 'persevered throughout the day' tell us about the Wright brothers' attempts to fly?

8. What do you think is the Wright brothers' greatest accomplishment?

9. Predict how aviation might develop in the next 100 years.

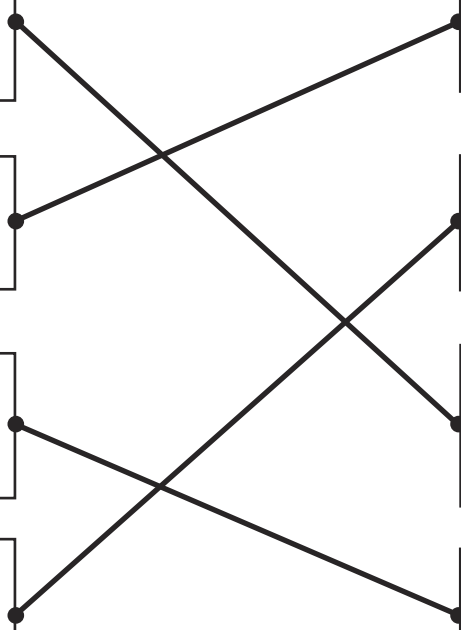
Answers

1. Where did the Wright Brothers grow up? Tick one.

- ☐ New York
- ☒ **Ohio**
- ☐ Florida
- ☐ Texas

2. Draw **four** lines and complete each sentence.

Known today as the 'fathers of modern aviation'...	read widely and to think critically about problems.
Milton encouraged the two brothers to...	ornithopters that mimicked the flapping of birds' wings.
The brothers found that their success...	the Wright brothers achieved sustained flight in an aeroplane for 12 seconds.
Leonardo da Vinci designed flying machines known as...	was not recognised immediately by the public.



3. The author describes Wilbur Wright as quiet, intelligent and serious. Think of another word that could describe him.

Pupils' own responses, such as: creative; clever; thoughtful.

4. **In 1878, Milton Wright brought them a toy helicopter.**

Why was this an important moment for the Wright brothers?

This was an important moment because the toy fascinated the brothers and sparked their lifelong passion for flying.

5. Fill in the missing words.

Records of **attempted** flight can be found from over **2,000** years ago.

6. Comment on why the Wright brothers chose Kitty Hawk to test their aeroplanes.

Pupil's own responses, such as: The Wright brothers chose Kitty Hawk because it was isolated, which meant that there weren't many people around to copy their ideas. The sand dunes would create a soft landing if they crashed and the wind would help the aeroplanes off the ground.

7. What does the phrase 'persevered throughout the day' tell us about the Wright brothers' attempts to fly?

Pupil's own responses, such as: I think that the phrase 'persevered throughout the day' tells us that it was difficult to get the aeroplane off the ground and that the brothers had to keep trying again and again.

8. What do you think is the Wright brothers' greatest accomplishment?

Pupils' own responses, such as: I think that the Wright brothers' greatest accomplishment was designing, building and flying the 'Wright Flyer' because it flew for 12 seconds. No one had ever flown an aeroplane like that before.

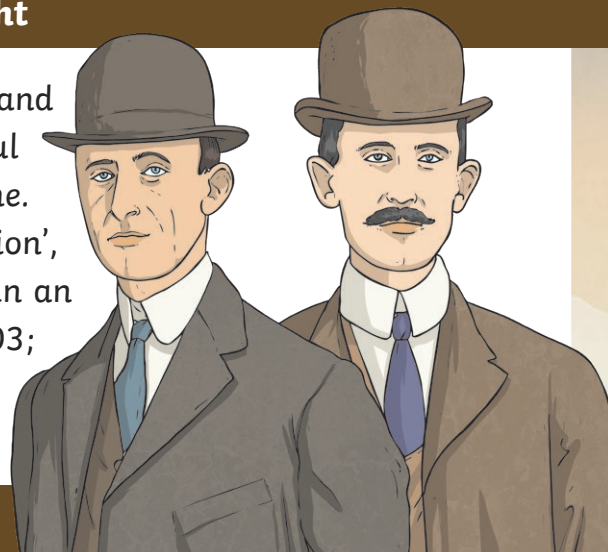
9. Predict how aviation might develop in the next 100 years.

Pupils' own responses, such as: I think that aviation will continue to develop in the next 100 years. There will be an increase in space travel; people will begin to visit the moon regularly and even build colonies on other planets.

The Wright Brothers

"The desire to fly is an idea handed down to us by our ancestors"
- Wilbur Wright

Wilbur and Orville Wright were designers and inventors who are famous for the first successful flight of a controlled aeroplane with an engine. Known today as the 'fathers of modern aviation', the Wright brothers achieved sustained flight in an aeroplane for 12 seconds on 17th December 1903; their innovative work led to many advances in flight technology.



Early Life

Wilbur Wright (1867-1912) and Orville Wright (1871-1948) were from a family of five children and grew up in Ohio, USA. Wilbur was meek, studious and serious while Orville was inquisitive, self-assured and loved new challenges. Their father, Milton Wright, was a bishop of the clergy; he encouraged the brothers to read extensively and challenge themselves intellectually. The brothers later said that he had been a great influence on their lives.

Milton Wright travelled frequently and often brought back toys for his children. In 1878, he presented the boys with a toy helicopter made of cork, bamboo and paper which was powered by a rubber band. The toy (based on a design by the French inventor Alphonse Pénau) intrigued the brothers and sparked their lifelong fascination with flying machines. Interestingly, instead of going to university after school to continue their education, the brothers opened their own bicycle repair shop. It was there that they began to investigate flying machines and used some of their experience to start sketching their own early designs.

Previous Attempts at Flight

Records of attempted flight can be found from over 2,000 years ago and include tower jumping (humans attaching birdlike wings to themselves and jumping from a tower) and kite flying. One of the earliest Greek myths known describes a cautionary tale of Icarus; a boy who flew too close to the sun.

Leonardo Da Vinci (a famous Italian artist and scholar) designed flying machines known as ornithopters that mimicked the movement of birds' wings - unfortunately, they were never built. More recently, Otto Lilienthal (a German and inventor) designed, built and flew the first glider. Modern hang gliders are based on his flying machines.

The First Flight

The Wright brothers studied the work of other successful inventors for inspiration, including Otto Lilienthal (the inventor of the glider). They observed that birds angled their wings for balance and control and tried to emulate this in their designs, developing a concept called 'wing warping'. The brothers journeyed to Kitty Hawk, North Carolina to test the aeroplanes that they had built; the town was isolated, windy and close to sand dunes. In 1903, Wilbur and Orville had designed and built 'The Wright Flyer'. On its **debut** flight, the aeroplane was sustained in flight for 12 seconds with five spectators to witness the moment. The Wright brothers were not disheartened and persevered throughout the day. On the final flight of the day, Wilbur flew the aeroplane for 59 seconds at the height of 852 feet; this is twice the height of Blackpool Tower. It was a phenomenal achievement.

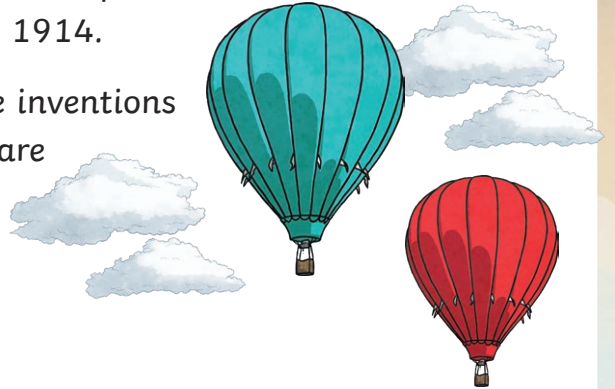
Later Life

The Wright brothers continued to improve their designs and, by 1905, they had built an aeroplane that could maintain its flight for 39 minutes. However, Orville and Wilbur found that their success was not acknowledged immediately by the public. Some people refused to believe what they had done despite the presence of witnesses and, as a result, the brothers went to Europe to sell their designs. They travelled across the continent and took part in flying demonstrations. Wilbur did most of the flying as he didn't want his younger brother to be put in any danger. They had more success in Europe and, as a result, became quite wealthy before returning to the USA to sell aeroplanes to the US army.



The brothers were very protective and secretive when it came to their innovative designs and were determined to patent their work. This meant that their ideas would be legally protected and nobody would be able to take credit for their inventions. It took many years for this to be accepted, but it was finally agreed to by the courts in 1914.

It is widely agreed today that the incredible inventions created by the ingenious Wright brothers are the foundation of modern aviation.



Questions

1. Whose work did the Wright Brothers study for inspiration? Tick one.

- ☐ Otto Lilienthal
- ☐ Leonardo da Vinci
- ☐ Icarus
- ☐ Milton Wright

2. Number the events from 1-5 to show the order in which they occur in the text.

The first one has been done for you.

- ☐ The brothers were very protective and secretive when it came to their innovative designs.
- ☒ 1 Wilbur Wright (1867-1912) and Orville Wright (1871-1948) grew up in Ohio, USA.
- ☐ They observed that birds angled their wings for balance and control.
- ☐ It was there that they began to investigate flying machines.
- ☐ Wilbur flew the aeroplane for 59 seconds at the height of 852 feet.

3. Find and copy a phrase which gives us the impression that Wilbur Wright was protective of his brother.

4. What sparked the Wright brothers' lifelong fascination with flying?

5. Fill in the missing words.

The _____ to fly is an idea handed down to us by our _____.

6. **Unfortunately, they were never built.**

Why did the author use the word 'unfortunately' when discussing the ornithopters?

7. Look at the section titled 'Early Life.' Compare Wilbur and Orville's personalities. How were they similar?

8. Explain why the author chose to use the phrase 'cautionary tale' to describe the Greek myth about Icarus.

9. How did people in the past understand flight, compared to how we understand it today?

10. Predict how aviation might develop in the next 100 years.

Questions

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- ☐ Leonardo da Vinci
- ☐ Icarus
- ☐ Milton Wright

2. Number the events from 1-5 to show the order in which they occur in the text.
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he didn't want his younger brother to be put in any danger

4. What sparked the Wright brothers' lifelong fascination with flying?

Their father presented the boys with a toy helicopter made of cork, bamboo and paper which was powered by a rubber band.

5. Fill in the missing words.

The **desire** to fly is an idea handed down to us by our **ancestors**.

6. **Unfortunately, they were never built.**

Why did the author use the word 'unfortunately' when discussing the ornithopters?

Pupils' own responses, such as: I think that the author used the word 'unfortunately' because ornithopters were a great idea. People would have been able to fly before the Wright brothers invented the aeroplane.

7. Look at the section titled 'Early Life.' Compare Wilbur and Orville's personalities. How were they similar?

Pupils' own responses, such as: Wilbur was studious and Orville was inquisitive. This means that they were both interested in learning new things.

8. Explain why the author chose to use the phrase 'cautionary tale' to describe the Greek myth about Icarus.

Pupils' own responses, such as: The author used the phrase 'cautionary tale' to describe the Greek myth about Icarus to tell the reader that Icarus' attempt at flying was dangerous and shouldn't be repeated.

9. How did people in the past understand flight, compared to how we understand it today?

Pupils' own responses, such as: I think that people in the past knew very little about flight and they even refused to believe that Wilbur and Orville had flown inside an aeroplane. Now, we know a lot more about flying and it is common for people to fly in aeroplanes to go on holiday.

10. Predict how aviation might develop in the next 100 years.

Pupils' own responses, such as: In the next 100 years there will be many developments in aviation. I think that people will be able to travel more quickly and there will be an increase in space travel. People will begin to visit other planets and the moon.