

Read the short story and answer each question.

The Evolution of Airplanes

The idea of flying has fascinated people for centuries. The first successful flight took place in 1903, but the journey to that achievement took many years of experimentation and innovation.

In the 1800s, inventors like **George Cayley** began studying the principles of flight. Cayley built the first **glider**, a type of aircraft that could fly without an engine. His work led to the idea that aircraft needed **lift**, **thrust**, and **control** to stay in the air.

The next major step in aviation came with the Wright brothers, **Orville** and Wilbur Wright. In 1903, they flew the first powered aircraft, the **Flyer**, in Kitty Hawk, North Carolina. The Wright brothers' success was based on their understanding of flight mechanics and their ability to design an engine that could power an aircraft.

After their historic flight, aviation technology advanced quickly. In the 1920s and 1930s, planes became faster and more reliable, with the introduction of **metal aircraft** and powerful engines. The development of **commercial air travel** made it possible for people to travel long distances in a matter of hours, instead of days or weeks.

The evolution of airplanes is a story of innovation, trial, and error. Each inventor's work built on the discoveries of those before them, leading to the world of modern aviation we know today.





Name:

The Evolution of Airplanes

1. What is the relationship between George Cayley's work and the Wright brothers' success?

- A. Cayley's gliders helped the Wright brothers understand the principles of flight, which they used to build their powered aircraft.
- B. Cayley's designs were used directly by the Wright brothers to build their plane.
- C. Cayley discovered the need for engines, which the Wright brothers then developed.
- D. Cayley invented the first airplane, which the Wright brothers improved.

3. Fill in the blank:

2. How did commercial air travel affect the world?

- A. It made long-distance travel faster and more accessible, allowing people to travel globally in hours.
- B. It limited how far planes could travel, causing people to use ships instead.
- C. It made flying dangerous and only available to the wealthy.
- D. It only affected travel within countries, not internationally.

In 1903, the Wright brothers flew the first _____ plane in Kitty Hawk.

4. How did the work of earlier inventors, like George Cayley, influence the Wright brothers' flight?

5. What key advancements in airplane technology are mentioned in the passage? How did they contribute to the evolution of aviation?



Guide Reading Level: U Lexile Level: 925L-1075L Grade Level: 5th Grade, Middle of the Year Genre: Informational – History / Science

Introducing the Text

"This passage explains how early flight experiments led to the development of modern airplanes. Students will examine how the work of different inventors influenced one another, leading to major advancements in aviation. They will analyze how inventions build on each other to improve technology."

Vocabulary: glider, lift, thrust, control, metal aircraft, commercial air travel

Before Reading Discussion Questions

- 1. What do you know about the history of flight?
- 2. Why do you think inventors keep building on each other's ideas?
- 3. What might it have been like to design the first flying machines?

During Reading Discussion Questions

- 1. What role did George Cayley play in the development of airplanes?
- 2. How did the Wright brothers' Flyer change aviation?
- 3. What advancements in aviation occurred after the Wright brothers' first flight?

After Reading Discussion Questions

- 1. What relationship between earlier and later inventors is described in the passage?
- 2. How did advancements in materials and technology change aviation?
- 3. What can we infer about the importance of collaboration and innovation in history?

Activity Idea

Have students create a timeline of key events in the evolution of airplanes, from George Cayley's glider to modern commercial airliners. They should write a short description of each event, including how it contributed to the development of flight.

