

Cobblestone™

THE WRIGHT BROTHERS TAKE OFF!

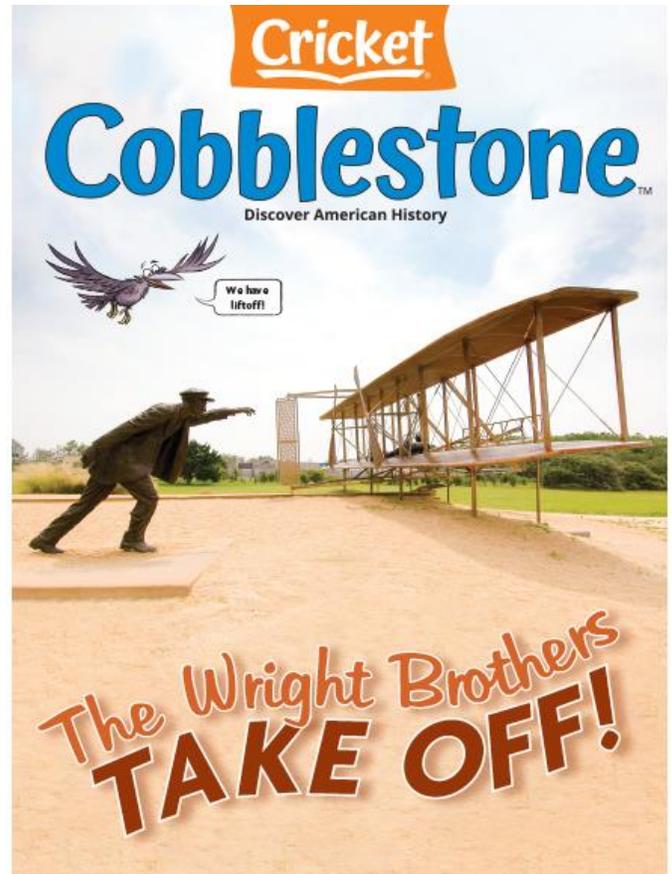
Use the articles, lessons, and activities in this Teacher Guide to help students understand the importance of the Wright Brothers' first airplane flight.

CONVERSATION QUESTION

How did the Wright Brothers' first airplane flight affect the future of both the United States and the world?

TEACHING OBJECTIVES

- Students will compare and contrast life before the invention of successful air travel.
- Students will explore how changes in transportation impacted the world.
- Students will generate an idea for a flying machine.
- Students will learn about the process of how the Wright Brothers achieved flight.
- Students will compare perspectives.
- Students will write a short play.
- Students will learn about the evolution of the air travel industry.
- Students will explain why aircrafts were important for the military.
- Students will sequence events by creating a timeline.



In addition to supplemental materials focused on core Social Studies skills, this flexible teaching tool offers vocabulary-building activities, questions for discussion, and cross-curricular activities.

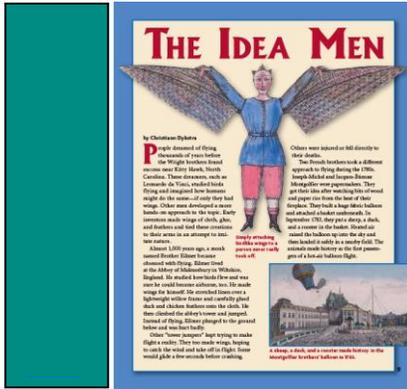
SELECTIONS

- **The Idea Men**
Expository Nonfiction
- **Two Brothers from Ohio**
Expository Nonfiction
- **Growth of an Industry**
Expository Nonfiction

The Idea Men

pp. 9–11, Expository Nonfiction

Use this article about early attempts at flight through history to understand what led to the Wright Brothers' flight.



ENGAGE

Conversation Question: How did the Wright Brothers' first airplane flight affect the future of both the United States and the world?

Ask students if they have ever thought about what it would be like to be able to fly in the same way that birds do. What would they like about it? Then ask them to think about different ways that humans might be able to fly, such as by creating wings or inventing different kinds of machines for moving through the air. Point out after the discussion of ideas that, before airplanes were invented, people throughout history have tried many ways to be able to fly.

INTRODUCE VOCABULARY

Define each word with students. Then arrange students in small groups and have them create a crossword puzzle using the three vocabulary words and at least five other words that relate to flying. Then have the groups exchange and complete each other's puzzles.

OBJECTIVES

- Students will compare and contrast life before the invention of successful air travel.
- Students will explain how changes in transportation impacted the world.
- Students will generate an idea for a flying machine.

KEY VOCABULARY

- **airborne (p. 9)** carried through the air or lifted by the wind
- **propeller (p. 10)** a device with a hub and spinning blades that moves a ship or aircraft through water or air
- **biplane (p. 11)** an early type of plane with two sets of wings stacked one above the other

READ & DISCUSS

Have students read the article. Then use these questions for discussion:

1. What might be some reasons that people have always dreamed of flying?
2. How did observing birds influence early designs for flying?
3. What often happened to people who experimented with making wings? Do you have an idea about why they didn't work for humans?
4. Which of these experimental aircraft are actually still used today?
5. Why were these early inventions important to achieving the dream of human flight?

CONCEPT/SKILL FOCUS: Change in Transportation

INSTRUCT: Explain to students that this article describes some of the design experimentation that took place as people tried to fly. Think about what worked, what didn't work, and what helped advance the invention of airborne vehicles. Then have students use these ideas to design their own aircraft that could be used by one person or by many. Emphasize that students should be creative and imaginative.

ASSESS: Have students compare their designs. Discuss as a class what is needed for a successful design (such as wings or a motor). How did the innovation of flight impact the diffusion of ideas, travel, and culture?

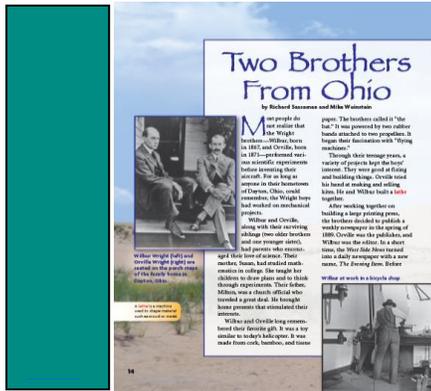
EXTEND

Language Arts: Invite students to write a fictional set of journal entries from one of the inventors mentioned in the article, discussing their process of experimentation and what happened when they tested their inventions.

Two Brothers from Ohio

pp. 14–17, Expository Nonfiction

Use this article about Wilbur and Orville Wright to learn about how these brothers achieved the first airplane flight.



OBJECTIVES

- Students will learn about the process of how the Wright Brothers achieved flight.
- Students will compare perspectives.
- Students will write a short play.

KEY VOCABULARY

- **mechanical** (p. 14) having to do with machinery or tools
- **manufacture** (p. 15) to make something from raw materials, by hand or using a machine
- **mishaps** (p. 16) bad luck, or unlucky events or accidents

ENGAGE

Conversation Question: How did the Wright Brothers' first airplane flight affect the future of both the United States and the world?

Ask students if they have ever tried to do something that was new to them, or make something, without having any instructions from someone else. How did it turn out? Were they successful, or did they have to keep trying by making changes and starting again? Explain the idea of trial and error: *creating something or solving a problem by trying different methods and learning from your mistakes*. Have them keep this idea in mind as they read the article about the Wright Brothers and think about their process of trial and error.

INTRODUCE VOCABULARY

Define each word with students. Then divide the students into small groups and have them write sentences using one, two, or even all three vocabulary words. Have groups read their sentences out loud and have the class evaluate them for accuracy.

READ & DISCUSS

Have students read the article. Then use these questions for discussion:

1. What did all of the different things the brothers were interested in tell you about their personalities?
2. What does it mean when the author says that the brothers had “inquiring minds”? How did this help them invent a flying machine?
3. How did the Wright Brothers use the process of trial and error?
4. How did Orville and Wilbur’s father encourage their interests? Was this important to their becoming inventors?

CONCEPT/SKILL FOCUS: Compare Perspectives

INSTRUCT: Explain to students that this article describes the process that resulted in Wilbur and Orville Wright creating a successful flying machine. It also gives us a small glimpse of what it was like for the two brothers to be involved in this process. Divide the class into several groups. Using print or digital sources, have them research the day in Kitty Hawk when the brothers’ plane actually flew. Then have each group write a short play featuring the two brothers as the flight happened.

ASSESS: Have each student group perform their play. Evaluate whether the plays reflect the perspectives of each brother and the excitement of the event.

EXTEND

Science: Invite students to research the geographical and meteorological (weather) characteristics of Kitty Hawk, North Carolina, and write a short paragraph about why it was well suited for the Wright Brothers’ flying machine experiments.

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Growth of an Industry

pp. 26–29, Expository Nonfiction

Use this article about the growth of air travel as an industry to explore why aircraft were and continue to be so important worldwide.



RESOURCES

- Sequence of Events

OBJECTIVES

- Students will learn about the evolution of the air travel industry.
- Students will explain why aircrafts were important for the military.
- Students will sequence events by creating a timeline.

KEY VOCABULARY

- **application (p. 27)** a way in which something can be used for a particular purpose
- **competition (p. 27)** an activity done by a number of people or organizations, each of which is trying to do better than all of the others
- **aviation (p. 28)** the design, development, production, operation, and use of aircraft

ENGAGE

Conversation Question: How did the Wright Brothers' first airplane flight affect the future of both the United States and the world?

Ask students what they know about traveling before the invention of cars and airplanes. How did people move from one place to another, especially over long distances? How did those forms of travel affect people's lives? Did it limit how far they traveled, and why? Now ask students how the ability to travel by airplane has changed people's lives. Do they travel more? How does it affect people's attitudes and knowledge of the rest of the world, in ways they didn't have before air travel?

INTRODUCE VOCABULARY

Define each word with students. Then have them complete each of the following sentences using a vocabulary word.

1. Many countries were interested in exploring uses for _____.
2. The military had many ideas for the _____ of air flight.
3. Countries were in a _____ to develop new uses for planes.

READ & DISCUSS

Have students read the article. Then use these questions for discussion:

1. Why did the Wright Brothers believe that the first use of aircraft would be in the military?
2. Why did the Signal Corps want the Wrights to develop modern aircraft for the military? What world events might have influenced this?
3. What were some of the first non-military uses of airplanes?

CONCEPT/SKILL FOCUS: Sequence of Events

INSTRUCT: Explain to students that this article describes a timeline of the development of aviation and its uses. Working in pairs, have students identify what they think are the most important milestones in the history of aviation, then fill in the *Sequence of Events* graphic organizer listing specific examples from the article.

ASSESS: Have each student pair compare their organizer with the rest of the class and discuss any differences, especially which events each student pair included in the organizer.

EXTEND

Art: Invite students to research the first commercial passenger airlines and have them create an advertising poster for one of them, mentioning the advantages of flying, to persuade people to fly to their destinations instead of driving or taking a boat or train.

Sequence of Events

Understanding the sequence of events helps us see how a historical event can lead to an important change in how things are done going forward. The Wright Brothers' flight began as a single event on an isolated beach in North Carolina but would lead to developments that changed the world. Look at the chart below. Starting with that first flight, create a timeline with five of the important events that showed how the aviation industry developed.

Event	<ul style="list-style-type: none">• December 17, 1903• The Wright Brothers successfully fly their aircraft at Kitty Hawk, NC.
Event	