

# Comprehension

## Genre

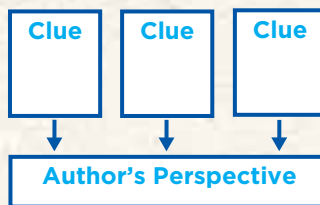
**Narrative Nonfiction** is a story or account about actual persons, living things, situations, or events.



## Monitor Comprehension

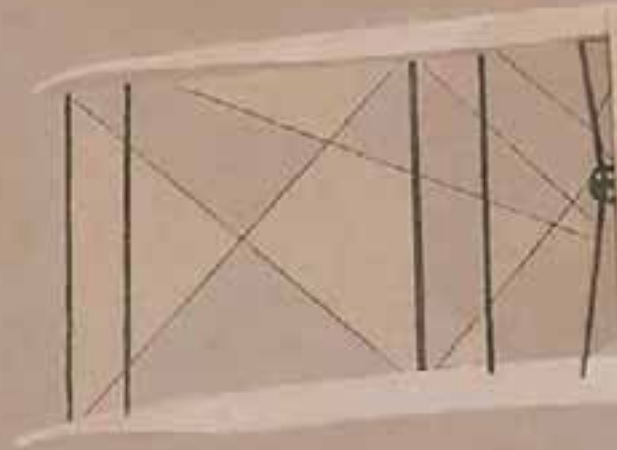
### Author's Perspective

As you read, fill in your Author's Perspective Map.



## Read to Find Out

What inspired the Wright brothers to make the first successful flying machine?



# My Brothers' Flying Machine

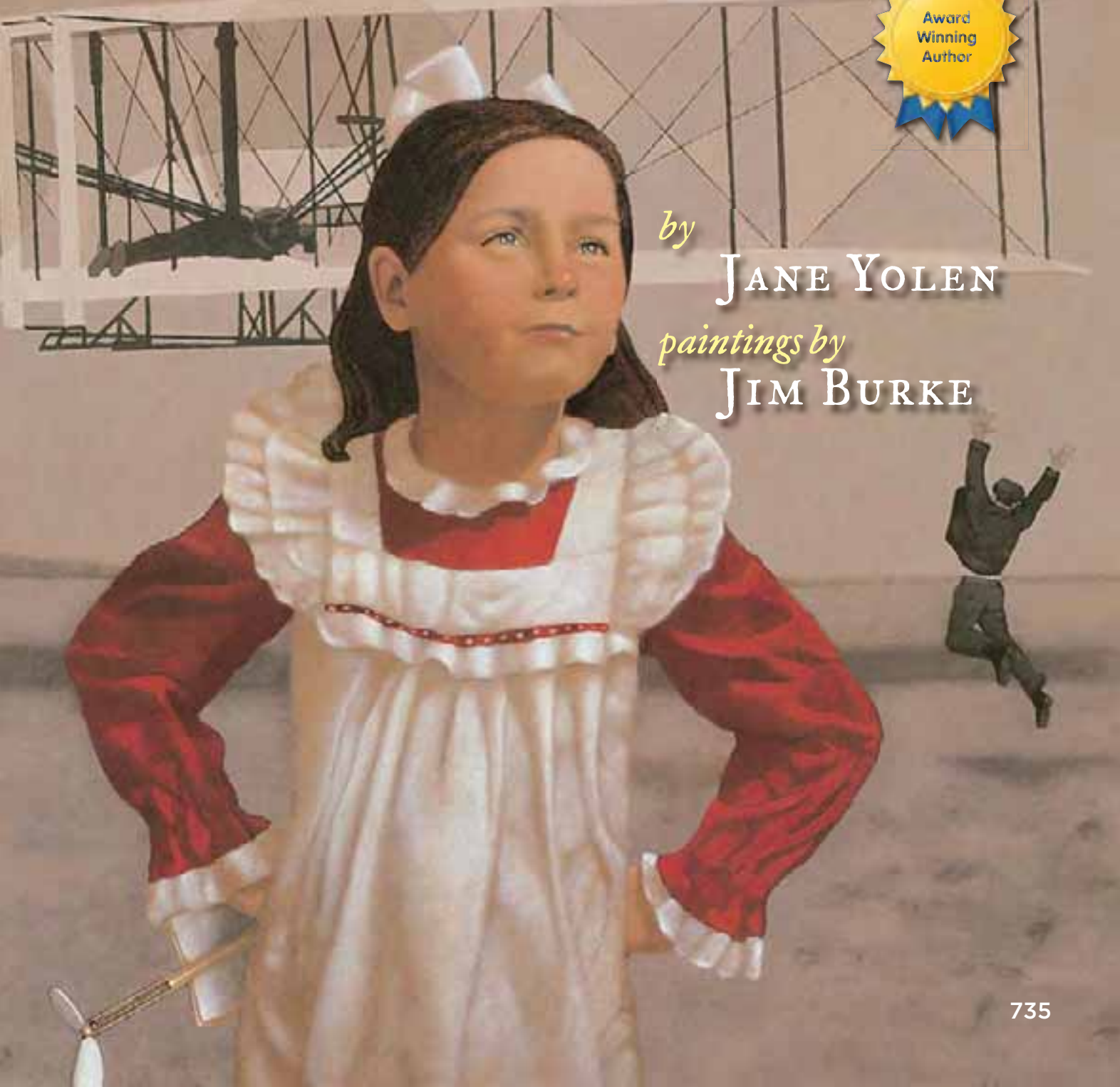


*by*

JANE YOLEN

*paintings by*

JIM BURKE



I was four years old when Papa brought home a little flying machine. He tossed it into the air right in front of Orv and Will. They leaped up to catch it.

“Is it a bat?” Orv asked. Or maybe it was Will.

When at last the “bat” fell to the floor, they gathered it up like some sultan’s treasure, marveling at its paper wings, admiring the twisted rubber band that gave it power. I wanted to touch it, too, but they would not let me, saying I was too little, though I was but three years younger than Orv, to the very day.

When the “bat” broke, they fixed it together, Will directing Orv—with his busy hands—tinkering till the toy worked better than when Papa first brought it home.

Our older brothers, Reuchlin and Lorin, looked down on childish activity, but Will was not put off. He made one, and two, and three more “bats,” each one bigger than the last. Orv was his constant helper. I stood on tiptoe by the table, watching them work.

Will shook his head. “On a much larger scale,” he said, “the machine fails to work so well.”

They both were puzzled. They did not know yet that a machine twice as big needs eight times the power to fly.



After that, Will built sturdy kites, which he sold to his pals in school. Orv made a printing press, with an old tombstone for a press bed, wheels and cogs from a junkyard, and the folding top of my old baby buggy that he had found in the barn. My, it made me smile to see it.

Papa and Mama **applauded** their efforts. Orv's press could print a thousand pages an hour. A printer from the great city of Denver came to visit and climbed under and over Orv's baby-buggy press. At last he laughed, amazed. "Well it works," he said, "but I certainly don't see how."

Orv and Will made many messes, but Mama never complained. She'd always been the one who gave them a hand building things when they were boys. Poor Papa. He knew God's word well enough, but not how to drive a nail.

When dear Mama died of tuberculosis, I took over her role: keeping the house, making the meals, and always giving the boys applause, even after I graduated from college and worked as a teacher.



Will and Orv never went on in school. They ran a print shop, then a bicycle shop, repairing and making custom-built models they called the Van Cleve and the St. Clair. Theirs was not the biggest bicycle shop in Dayton, but I like to think it was the best.

Will and Orv. Orv and Will. They worked side by side in the bicycle shop, whistling at the same time, humming the same tune. They even—so Will said—*thought* together.

Some folks mistook them for twins, though they looked nothing alike. Will had a hawk's face, and Orv a red mustache. Orv was the neat one. He wore special cuffs for his sleeves and a blue-and-white-striped apron to protect his clothes. But Will—land's sake, he was a mess. I had to remind him when his suit needed pressing and when his socks did not match, or find him one of Orv's shirts when he was ready to go off to give a speech.





The newspapers and magazines were full of stories about people trying to fly. Lilienthal, Pilcher, Chanute, MEN INTO BIRDS, the **headlines** read. I wondered if such a thing were really possible. Orv said: “insects, birds, and mammals fly every day at pleasure, it is reasonable to suppose that man might also fly.”

Will wrote off to the Smithsonian for all their books and pamphlets on flight. He and Orv studied page after page. The first question they asked was: *How can we control the flight?*

They knew that a bicycle is **unstable** by itself, yet it can be controlled by a rider. *How much more control would an aeroplane need?*

Overhead, buzzards wheeled in the sky, constantly changing the positions of their wings to catch the flow of air. “If birds can do it,” Orv mused out loud, “so can men.” He seemed so certain, I began to believe it could be done. I began to believe it could be done by Will and Orv.



### Author's Perspective

What is the author's perspective about Will and Orville's sister? What role does Jane Yolen have her play in the story?





They built their first aircraft right in the bicycle shop. I took over running the place, as Mama would have, so they might make their flying machine.

That first aircraft's wings spanned a full five feet. I measured it out myself. The craft was of pinewood covered with fabric and sealed with shellac. Like a kite, it was controlled by a set of cords.

When it was finished, Orv and I went off on a camping trip with a group of friends. While we were gone, Will did a sneak. He marched out to a nearby field and he flew the **glider**, watched only by some boys. The thing suddenly swooped down on them. The boys ate dust that day, I'll tell you.

Their first aircraft was a big kite. But a kite is not an aeroplane. So Will and Orv set about to build it bigger—sixteen or seventeen feet, large enough to carry a man but still open to all the elements.

Will lay facedown on the lower wing, showing me how he planned to fly. I tried to imagine the wind in his face, the dirt and grass rushing up to greet him like an old bore at a party.

“Is it safe?” I whispered.

He winked at me, smiled, and said, “If you are looking for perfect safety, sit on the fence and watch the birds.”

Dayton, Ohio, where we lived, was not the place to fly the craft. Will and Orv needed somewhere with open spaces and strong, regular breezes. They thought about San Diego, about St. James, Florida, about the coasts of South Carolina and Georgia.





At last they settled on Kitty Hawk on the Outer Banks, a two-hundred-mile strip of sand with the ocean at its face and North Carolina at its back. Will called it “a safe place for practice.” Only sand and hearty breezes. Only sun and a moon so bright Orv could read his watch all hours. I kept the store. Will and Orv kept the sky.

Weeks, months went by in practice. The boys sent me letters almost every day so that I might follow their every move. When they were home, I was in their closest confidence.

At Kitty Hawk they flew the aircraft with a man—and without one—but always controlled the craft from the ground. We had thought: *Stand on the shoulders of giants, and you are already high above the ground*, but success did not come as quickly as we hoped. Finally Will made a big decision: “We cast the calculations of others aside.”

Back in Dayton they would start anew. This time when they left Kitty Hawk for home, when they left the wind, the sand, the mosquitoes that left lumps like hen’s eggs, they came home with a new idea.



#### Author’s Perspective

How does the author feel about the Wright brothers? Provide examples from the story to support your answer.

Now they worked dawn to dusk, so absorbed in what they were doing, they could hardly wait for morning to come to begin again. They built a small wind tunnel out of an old starch box and used a fan to make the wind. Then they built a larger tunnel.

They learned about lift and drag. They tried out many different kinds of wings. And three years, almost to the day, after Will had written to the Smithsonian, they were ready for *powered* flight. They built the *Flyer*, with a **wingspan** of just over forty feet.

Our friend Charlie Taylor made a twelve-horsepower engine for the *Flyer*, a motor both light and powerful. Gasoline was gravity-fed into the engine from a small tank just below the upper wing. The *Flyer* was so big—over six hundred pounds of aeroplane—it could not be assembled whole in our shop.


Back to Kitty Hawk they went at the tag end of September 1903, carrying crates filled with aircraft parts. It took weeks to put the *Flyer* together, weeks more to prepare for the flight.

Winter came blustering in early. It was cold in camp, each morning the washbasin was frozen solid, so they wrote in their letters. They kept fiddling, tinkering, changing things.

Finally, on December 14, they were ready. They flipped a coin to see who would be pilot. Will won, grinned, climbed into the hip cradle, and off the *Flyer* went, rattling down the sixty-foot starting track, then sailing fifteen feet into the air, where it stalled, crashed. But they were encouraged nonetheless. The telegram they sent to Papa and me read: *Rudder only injured. Success assured. Keep quiet.*







On December 17, a cold and windy day, the *Flyer* repaired and ready, they decided to try again. **Hoisting** a red flag to the top of a pole, they signaled the lifesaving station for witnesses. Four men and a teenage boy appeared.

The men helped them get the *Flyer* onto the starting track. Orv lay down on the lower wing, his hips in the padded cradle. Will shook Orv's hand.

"Now you men," Will called out, "laugh and holler and clap and try to cheer my brother."

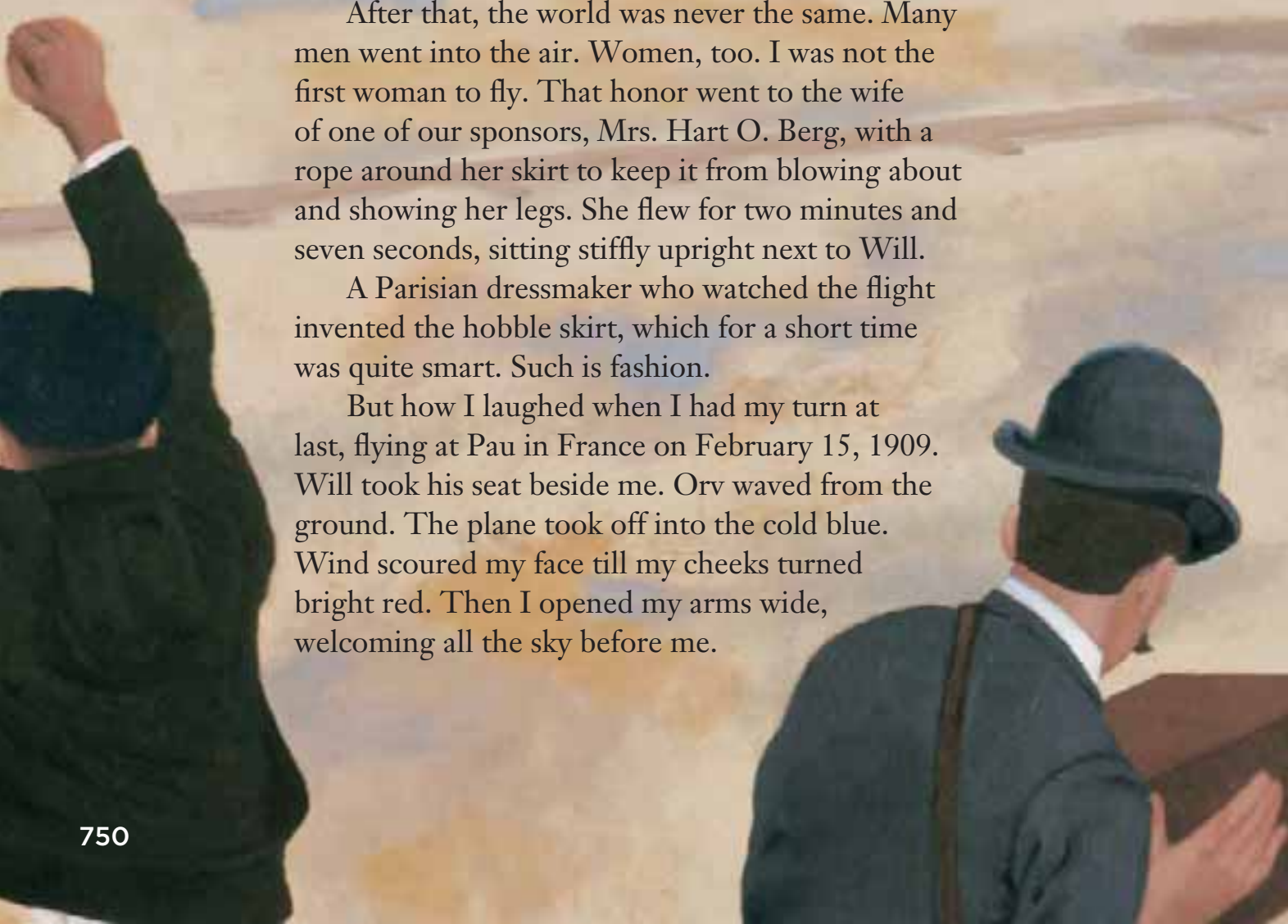
The motor began: *Cough, cough, chug-a-chug-a-chug*. Orv released the wire that held the plane to the track. Then the plane raced forward into the strong wind and into history.

The boys sent a telegram home to Papa and me.

After that, the world was never the same. Many men went into the air. Women, too. I was not the first woman to fly. That honor went to the wife of one of our sponsors, Mrs. Hart O. Berg, with a rope around her skirt to keep it from blowing about and showing her legs. She flew for two minutes and seven seconds, sitting stiffly upright next to Will.

A Parisian dressmaker who watched the flight invented the hobble skirt, which for a short time was quite smart. Such is fashion.

But how I laughed when I had my turn at last, flying at Pau in France on February 15, 1909. Will took his seat beside me. Orv waved from the ground. The plane took off into the cold blue. Wind scoured my face till my cheeks turned bright red. Then I opened my arms wide, welcoming all the sky before me.

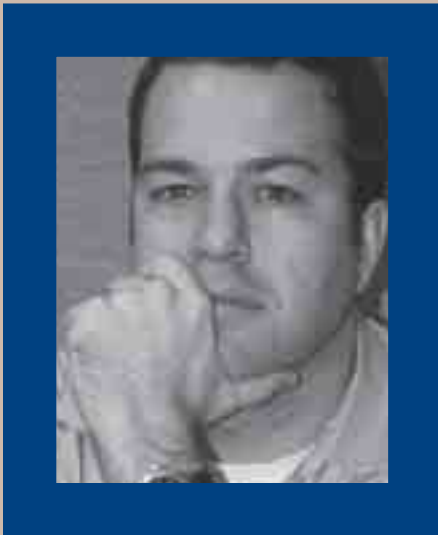
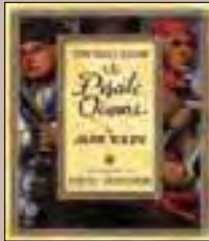




# Soar with Jane and Jim

**Jane Yolen** was asked by her editor to write a book about the Wright brothers for the 100th anniversary of their first flight. Jane wanted her book to be different from all the other books about the Wrights. She did a lot of research, until she came across an interesting note about the Wright brothers' sister. Jane knew she had found her story.

## Other books by Jane Yolen



**Jim Burke** has been an award-winning artist for many years, but this is his first book for children. Jim currently lives in New York City.

## Another book by Jim Burke



Find out more about Jane Yolen and Jim Burke at [www.macmillanmh.com](http://www.macmillanmh.com)

## Author's Purpose

How can you figure out Jane Yolen's purpose for writing *My Brothers' Flying Machine*? What clues tell you if she wanted to inform, explain, or entertain?



# Comprehension Check



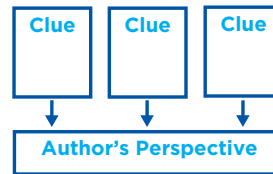
## Summarize

Summarize *My Brothers' Flying Machine*. Explain who the main characters are and tell the most important story events in the order in which they happened.

## Think and Compare



1. What makes this story about the Wright brothers different from other biographies you have read? Use your Author's Perspective Map and story details to answer the question. **Monitor Comprehension: Author's Perspective**



2. Reread page 744. How do you think Will feels about living in “perfect safety”? Use story details in your answer. **Analyze**
3. Imagine you are reporting on the Wright brothers’ historic flight at Kitty Hawk. What would your **headline** and article say? **Synthesize**
4. Would the Wright brothers have succeeded without the support of their sister? Explain your opinion. **Evaluate**
5. What do you learn about the Wright brothers’ first flight in “Take Off” on pages 732–733? What else do you learn from pages 748–750 of *My Brothers' Flying Machine*? **Reading/Writing Across Texts**

