

Biography

The Amazing Benjamin Franklin

by Victoria St John



Mc
Graw
Hill

PAIRED
READ

Beulah Henry: Inventor

STRATEGIES & SKILLS

Comprehension

Strategy: Ask and Answer
Questions

Skill: Cause and Effect

Vocabulary Strategy

Metaphors

Vocabulary

design, encouraged,
examine, investigation,
quality, simple, solution,
substitutes

Content Standard

Science

Technology

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**The total word count is based on words in the running text and headings only. Numerals and words in captions, labels, diagrams, charts, and sidebars are not included.



Essential Question

How can problem solving lead to new ideas?

The Amazing Benjamin Franklin



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Introduction

Have you ever wished you could swim like a fish? Ben Franklin wanted to when he was young. Once he tied paddles to his arms like fish fins so he could swim faster.

Young Ben Franklin was curious about many things. He loved to invent ways to make life better.



Benjamin Franklin (center) helped write the Declaration of Independence.

A FOUNDING FATHER

Ben Franklin is an important part of American history. He was not just a great inventor. He also signed the Declaration of Independence and the United States Constitution. His picture is on the \$100 bill.



When he grew up, Ben Franklin invented many different things. He found solutions to many problems, too.

Ben invented this chair that could become a step ladder.



CHAPTER 1

Big Ideas

Benjamin Franklin was born on January 17, 1706. He started to work in his father's store when he was only 10 years old.



Young Ben learned a lot working in the print shop.

Later he got a job working for his brother James as a **printer**. That was a good job for Ben. He loved reading and writing. He would examine the work of other writers.

Ben wanted to write for his brother's newspaper. So he used a fake name. James published Ben's stories. But when James found out Ben wrote them, he was angry. The brothers never got along after that.

Ben moved to Philadelphia when he was 17. He found work with another printer. Later, he started his own printing business.



Ben worked on a printing press like this one.

In Philadelphia, Ben printed newspapers. At that time, not everyone could read well. Ben came up with a way for everyone to learn the news. He put simple **cartoons** and pictures in his newspapers. Now everyone could follow the news.



In 1754, the United States had not been formed. Ben Franklin used this cartoon to tell people that the separate colonies should join together.

Ben believed in doing things for others. He helped form a group called the Junto. The Junto worked to improve the city. Its members started a hospital, a library, and a university. Some of these things were the first of their kind in America.

Library Hall was built on the site of Franklin's first library in Philadelphia. Library members all helped buy books.



In Ben's time, fire was an enemy. It caused huge damage. Ben helped set up a **fire brigade**. They bought pumps, ladders, buckets, and other equipment to fight fires. Ben's idea made Philadelphia much safer.



In Ben Franklin's time, people used buckets of water to put out fires.

STOP AND CHECK

What problems did Ben find solutions for in Philadelphia?

CHAPTER 2

Experiments and Inventions

Ben's printing business made him rich. He had time for new investigations.

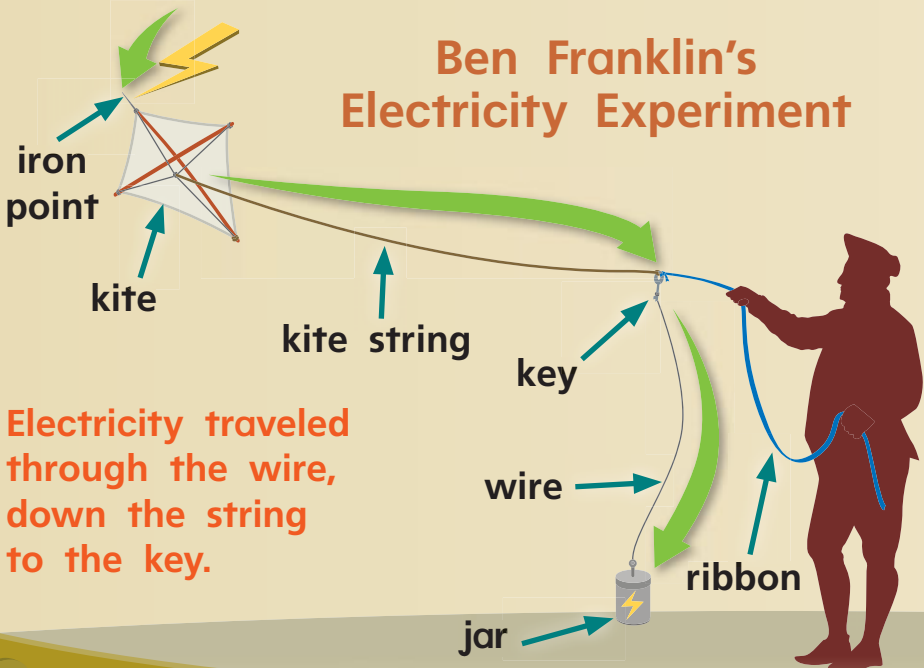
A friend gave Ben a special glass jar. This jar stored static electricity. You can make static electricity when you rub a balloon on your head. This gift encouraged Ben to experiment. Ben wanted to discover more about electricity.



Static electricity can make your hair stand on end!

Ben's most famous experiment showed that lightning was electricity.

The story goes that Ben flew a kite in a storm. He tied a key to the end of the kite string. He tied a wire to the key. He put the wire in a special jar. Lightning hit the kite. Electricity came down the string. It went to the key. Then it went from the key into the jar.



Ben knew lightning could start a fire if it hit a building. This gave him the idea to design lightning rods.

Lightning rods take lightning safely from the air to the ground. This invention is still used today.

A lightning rod helps protect tall buildings from lightning.

STOP AND CHECK

What was Ben trying to show with his kite experiment? How did the experiment help people?



CHAPTER 3
A Life Helping Others

Ben Franklin never stopped thinking up ways to solve problems.

As he got older, Ben needed glasses. He needed them to see things far away. He also needed them to see things up close. He had to keep changing his glasses. This was a problem. He looked for a solution.

You can see things close up with the bottom part of these glasses and you can see things that are far away with the top half.



He took the lenses from his two pairs of glasses. He cut them in half. Then he put the different halves into one pair of glasses. Now he did not need to change glasses.

This idea made the quality of life better for many people. People still wear these glasses, called bifocals.

SHARING HIS IDEAS

Ben Franklin wanted to share his ideas. He never made money from his inventions. His inventions included:

- a tool for getting things off high shelves
- a safer wood-burning stove
- a chair that could become a step ladder
- better street lamps
- an instrument to measure distance.

Ben's favorite invention was this musical instrument made of glass.



Ben Franklin worked to help people all his life. There are still no substitutes for some of his inventions.



Ben Franklin was never short of ideas. He used his ideas to solve many problems. Today, his inventions are still helping people.

STOP AND CHECK

How do you know that some of Ben's experiments were very useful?

Respond to Reading

Summarize

Summarize what you learned about how Ben Franklin's problem solving led to new ideas. Use your chart to help you.

Cause	→	Effect
First	→	
Next	→	
Then	→	
Now	→	

Text Evidence

1. What features tell you that this book is a biography? **Genre**
2. What was the effect of Ben's fire brigade? **Cause and Effect**
3. What does the author compare fire to on page 8? **Metaphor**
4. Write about the problem Ben solved with his glasses. **Write About Reading**

Compare Texts

Read how one woman inventor came up with lots of new ideas.

Beulah Henry: Inventor

Beulah Henry was only nine years old when she made her first invention. It was a tool that let people keep their hands free when reading the newspaper.

Beulah went on to invent more than 100 things in her lifetime. At college, she invented an ice-cream freezer. Beulah received her first **patent** for this invention.

Many of Beulah's inventions solved everyday problems. Beulah invented a typewriter that could make many copies of a letter at one time. She invented a new kind of umbrella.

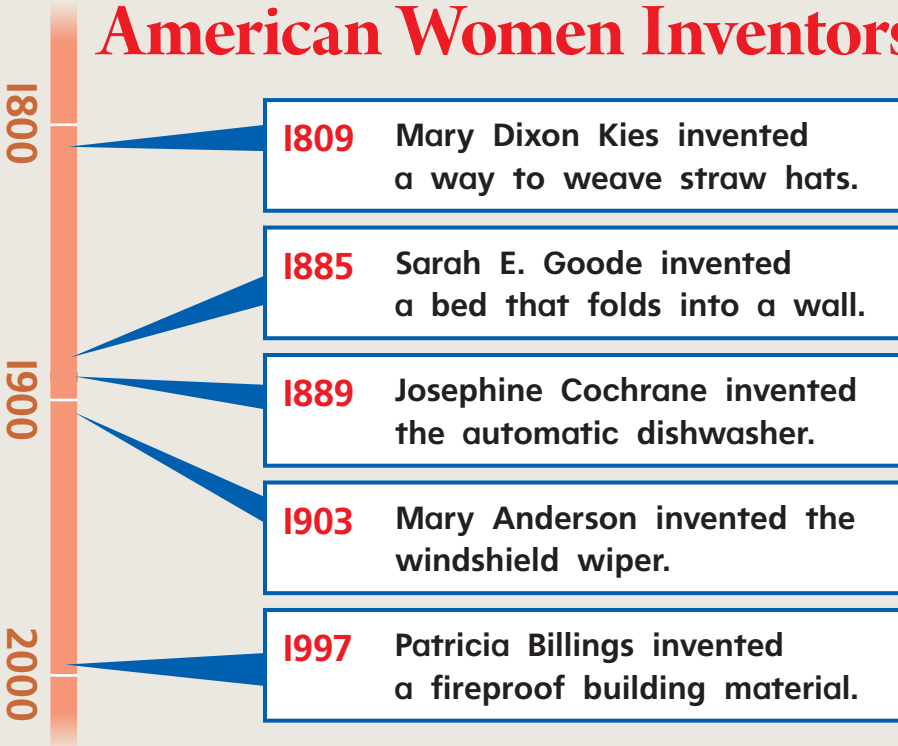
She also invented many new toys.

Beulah Henry shows her typewriter that makes several copies at once.



Beulah had a long career as an inventor. She never grew tired of finding solutions to problems.

A Time Line of American Women Inventors



Make Connections

What new ideas did Beulah come up with to solve problems?

Essential Question

How were Ben Franklin and Beulah Henry alike? [Text to Text](#)

Glossary

cartoons (*kahr-TEWNZ*) drawings with captions that are usually funny
(page 6)

fire brigade (*fiuhr bri-GAYD*) a team that fights fires (page 8)

patent (*PA-tuhnt*) a document that gives one person or group the rights to an invention (page 16)

printer (*PRIN-tuhr*) a person who prints and publishes newspapers and books; in Ben Franklin's time, printers were often responsible for the contents, too (page 4)

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Focus on Science

Purpose to explore and demonstrate static electricity

What to Do

Step 1 Blow up a balloon.

Step 2 Rub the balloon on your head or rub it on a piece of wool fabric. This will make static electricity.

Step 3 Place the balloon against a wall. Record what happens.

Step 4 Do steps 2–3 again but try rubbing the balloon for longer.

Conclusion What did you learn about static electricity? How did it affect the balloon?

Thinkmark

The Topic

What is *The Amazing Benjamin Franklin* mostly about?

Text Structure

How does the author organize information in *The Amazing Benjamin Franklin*?

Conclusions

What are the most important things you learned from *The Amazing Benjamin Franklin*?

Make Connections

The inventions you read about helped solve problems. What other inventions can you think of that solved problems?