

Electrifying Franklin

Instructional Unit Resource Guide

Based on Principles of Universal Design and Differentiated Instruction



Electrifying Franklin

4th Grade

Reading

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Message to the Reader / Teacher

The Electrifying Ben Franklin unit last for 3weeks. I developed this PowerPoint lesson to target different groups and to reinforce, challenge, and review in a fun way at the end of our unit. During this time the students read and *How Ben Franklin Stole Lightning* by Rosalyn Schanzer in Pages 224-243 in Treasures and *Ben Franklin* -Leveled Reader W. They also learned how to take notes, use resources from the internet, and gather information from PowerPoint's and books to gather information for their research. The unit ends with the PowerPoint Jeopardy game.

Standards and Benchmarks

Academic Standard Indicators emphasized/assessed in this lesson:

- 4.2.6 Distinguish between fact and opinion in informational text.
- 4.7.1 Ask thoughtful questions and respond orally to relevant questions with appropriate elaboration.
- 4.1.2 Apply knowledge of idioms to determine the meaning of words and phrases.
- 4.1.7 Use context clues to determine the meaning of unknown words.
- 4.2.8 Identify informational text written in narrative form
- 4.2.2 Use appropriate strategies when reading for different purposes

Resource Help

Developing Educational Standards: <http://www.edStandards.org/Standards.html>

MCREL: <http://www.mcrel.org/standards-benchmarks/>

Indiana Learning Standards: <http://www.doe.state.in.us/standards/>

ISTE – National Educational Technology Standards: <http://www.cnets.iste.org>

Reading and Science

The students will read a story about Ben Franklin and his accomplishments throughout his life time. During this time the students read and *How Ben Franklin Stole Lightning* by Rosalyn Schanzer and *Ben Franklin* -Leveled Reader W. This will span a 3 week period along with vocabulary, fact, opinion idioms, and comprehension review on the stories. The students will discover that Ben Franklin is most known for discovering how electricity works. Science will be integrated throughout this reading lesson. The students will make connections and expand their vocabulary throughout the process. We will build on their prior knowledge of static electricity to expand on current electricity.

Essential Questions: What is a problem that Ben Franklin is facing? What can he do to fix this problem? What is current electricity?

The students will review their vocabulary by quizzing their partners. As part of their science vocabulary, we will discuss atoms. In order for the students to get a better picture of what an atom is we'll do a short activity. The students will make a circle around the room. I will cut a piece of paper in half. I will give on half to the person on my right and the other to my left. I will explain that both pieces of paper are made of atoms. The students will keep cutting the paper in half until it gets to the last person. The students will then discover that everything is made of tiny things called atoms (even the smallest piece of paper).

Next, each pair will be given a small light bulb, two wires, and a battery. The students will make predication at what they will need in order to light up the bulb. In the beginning I will not give whole lot of instruction. Rather, I will ask the students to make predictions and fill in the work sheet. After they have made their predictions, they will begin testing them with their materials. Students will draw each path they found that made the bulb light. The next big question that will generate is 'WHY' does this happen?

Newspaper Article and Research

Ask students what they know about Benjamin Franklin. Record their responses on the board. Guide the discussion to point out that Franklin was a man of many accomplishments -- a printer, a writer, a philosopher, a scientist, an inventor, a musician, a statesman, and an economist. Tell students they will be learning more about the life and accomplishments of Benjamin Franklin.

Divide students into seven groups. Assign each group one area of Franklin's life to research: printing, science and technology, values, music, writing, finances, or politics. Have groups use the school or local library to find biographies or encyclopedia entries on Franklin. Students can also use the Internet to help them research their topics. Students should keep thorough notes from the different sources they use to research their topics. Have the students explain that they will be using the information they gathered for an oral presentation. After a group has completed its presentation, ask the rest of the students to interview each group as though they are writing a newspaper article about Franklin's life and accomplishments. Remind students to ask questions appropriate for the specific feature of the Franklin being interviewed. When the interviews are complete, have each group write a brief newspaper article on Benjamin Franklin, using the information they received from the different "Franklins." Have volunteers from each group read the articles to the class. The information that they gathered in the interviews can also be added to their research paper.

Final Review- Jeopardy

1. Review facts about Benjamin Franklin.
2. Review fact, opinion, and idioms.
3. Ask the students if they know the rules of the game Jeopardy. Call on students to tell the rules.
4. Review proper classroom behavior when they play games.
5. Have the students look under their desks for clue word. According to the word under their desk, will determine what group they will be placed in when they play the game.
6. Arrange the students in groups according to their word.
7. Explain how to use the buzzer.
8. Draw vocabulary words to see what group will go first.
9. Have the first group to determine what category they will choose.
10. Bring the question up on the power point and the game is on.

Planning Pyramid

What should students know?

Some students will know

Some students will know how Ben Franklin realized that current electricity and lightening and what atoms are.

Most students will know

Most students will know fact, opinion, and idioms.

All students will know

All students will know Ben Franklin was and some of his accomplishments.

Teacher Library

What materials and resources will be useful for teachers?

[PBS: Benjamin Franklin](http://www.pbs.org/benfranklin/)

<http://www.pbs.org/benfranklin/>

This multimedia site introduces Benjamin Franklin as a patriot, inventor, and scientist. There are hands-on crafts, an interactive timeline, games, lesson plans, a virtual quiz, and a video trailer.

Electric Ben Franklin

<http://www.ushistory.org/franklin/index.htm>

This site has many resources about Benjamin Franklin. Includes his experiments, biographies, quotes, and panoramas of the Franklin Court and the Independence Hall.

[Glimpses of the Man](http://sln.fi.edu/franklin/index.html)

<http://sln.fi.edu/franklin/index.html>

Watch the video clip, read articles, and try the activities. NOTE: This site contains sponsored links.

[A Man of Many Talents](http://www2.lhric.org/pocantico/franklin/franklin.htm)

<http://www2.lhric.org/pocantico/franklin/franklin.htm>

This site has resources for teachers, timelines, experiments, and more.

[Thinkquest: Benjamin Franklin](http://library.thinkquest.org/J002420F/)

<http://library.thinkquest.org/J002420F/>

This student-created site focuses on Benjamin Franklin and includes a word puzzle, a word search, and a quiz.

Learner Activities

What materials and resources will be useful for engaging students in meaningful learning activities?

Story Starters

- Born on January 17, 1706, in the British colony of Boston, Massachusetts, Franklin was the youngest of seventeen children.
- Benjamin Franklin was an American inventor, journalist, printer, diplomat, and statesman.
- A printer, author, library organizer, inventor, scientist, and statesman, Benjamin Franklin was born in Boston on January 17, 1706, the seventeenth child of Abiah and Josiah Franklin
- Benjamin Franklin was one of the most influential people in American history.
- Who was Benjamin Franklin? Yes, he was one of the "Founding Fathers," the only one who put his name to all three of the founding documents of the United States: the Declaration of Independence, the Treaty of Peace with Great Britain, and the Constitution under which we still live.

- Early to bed and early to rise makes a man healthy, wealthy, and wise.
- Do you know who invented the Franklin Stove? If you said Ben Franklin you were right!
- Yikes, ouch, wow! I just discovered something grand! Benjamin Franklin had many bright ideas. He was not only an inventor, but patriot, soldier and an entrepreneur.

Idioms

A bit much

If something is excessive or annoying, it is a bit much.

A day late and a dollar short

(USA) If something is a day late and a dollar short, it is too little, too late.

A fool and his money are soon parted

This idiom means that people who aren't careful with their money spend it quickly. 'A fool and his money are easily parted' is an alternative form of the idiom.

A little bird told me

If someone doesn't want to say where they got some information from, they can say that a little bird told them.

A little learning is a dangerous thing

A small amount of knowledge can cause people to think they are more expert than they really are. eg. he said he'd done a course on home electrics, but when he tried to mend my table lamp, he fused all the lights! I think a little learning is a dangerous thing

A OK

If things are A OK, they are absolutely fine.

A penny for your thoughts

This idiom is used as a way of asking someone what they are thinking about.

A penny saved is a penny earned

This means that we shouldn't spend or waste money, but try to save it.

A picture is worth a thousand words

A picture can often get a message across much better than the best verbal description.

A poor man's something

Something or someone that can be compared to something or someone else, but is not as good is a poor man's version; a writer who uses lots of puns but isn't very funny would be a poor man's Oscar Wilde.

A pretty penny

If something costs a pretty penny, it is very expensive.

A rising tide lifts all boats

This idiom, coined by John F Kennedy, describes the idea that when an economy is performing well, all people will benefit from it.

A rolling stone gathers no moss

People say this to mean that that a go-getter type person is more successful than a person not doing any thing.

A steal

If something is a steal, it costs much less than it is really worth.

Quotes

"A countryman between two lawyers is like a fish between two cats."

"A little neglect may breed mischief, ...for want of a nail, the shoe was lost; for want of a shoe the horse was lost; and for want of a horse the rider was lost."

"A man may, if he knows not how to save as he gets, keep his nose to the grindstone."

"A penny saved is a penny earned."

"Any fool can criticize, condemn and complain and most fools do."

"At twenty years of age, the will reigns; at thirty, the wit; and at forty, the judgment."

"Diligence is the Mother of good luck."

"Dost thou love life? Then do not squander time, for that's the stuff life is made of."

"Early morning hath gold in its mouth."

"Early to bed, early to rise makes a man healthy, wealthy, and wise."

"Energy and persistence conquer all things."

"Experience keeps a dear school, but fools will learn in no other."

"Fish and visitors smell in three days."

"HOW BEN FRANKLIN STOLE THE LIGHTNING"

by Rosalyn Schanzer
Pages 224-243 in Treasures

Genre: Biography (is a story about the life of a real person written by someone else).

Directions: After reading this text, complete the following organizer parts. Remember to reread any part of the story that confused you. You are a great reader.

Part I: Vocabulary Preinstruction:

| Vocabulary Word: | How it is used in this story: |
|------------------------|--|
| Independence | He even helped to write the Declaration of Independence and the Constitution of the United States. |
| hilarious | He also wrote almanacs that gave hilarious advice about life and told people when to plant crops, whether there might be an eclipse, and when the tides would be high or low. |
| dizzy | And in case climbing stairs made him dizzy , he invented a long wooden arm that could grab his books, too. |
| nowadays | But as popular as warmer stoves and glass armonicas were, they aren't anywhere near as celebrated nowadays as the invention Ben made after he stole the lightning. |
| whirlwind | Once he chased a roaring whirlwind by riding over the hills and forests of Maryland just to find out how it worked. |
| (came in) handy | Here's the part of the story where Ben's practice from thinking up all those inventions came in so handy . |
| mischief | The whole idea was to pull lightning safely out of the sky before it could do any mischief . |
| convinced | Why, when America fought against Great Britain for the right to become a free nation, Ben convinced France to come help win the war, and when it was over, he helped convince Great Britain to sign the peace. |

1. **visual** ("Follow along with your eyes as I spell it out loud")
2. **auditory** (Hear the parts /p/ /ea/ /ch/)
3. **kinesthetic** (trace with eyes, write it on the table, hand, etc.)
4. **phonics** (break the word apart)—discuss prefixes, suffixes, roots, compounds, phonograms, double vowels, silent e.
5. **meaning** (give the definition and/or an example)
6. **give an example.** "I will be working with this group, **meanwhile**, this group will be at computers."

"He snatched the lightning from heaven and the scepter from tyrants."

Part II: Comprehension

1. Discuss the **two** different methods Ben Franklin tried to travel faster across the water. Which method do you think was better? Explain your answer.

2. Why was it necessary for Benjamin Franklin to invent the library chair?

3. In the text it says, “Once sailors knew the **route** of this fast, warm ‘river’ in the cold ocean, they could travel between America and Europe in shorter time than ever before.” What is another word for **route**?

- course
- neighborhood
- maps
- length

4. Describe how Benjamin Franklin was able to steal lightning.

5. Sketch the scene you saw in your head the moment Ben Franklin stole lightning:

6. Why did Ben Franklin think that lightning rods were necessary?

7. In the text it says, “The whole idea was to pull lightning safely out of the sky before it could do any mischief. Ben showed people how to put a pointed iron rod on the tip-top of a roof or ship’s mast and connect it to a wire leading all the way down under the ground or into water. Now lightning could follow a safe path without burning up a thing.”

Which word in the paragraph means “to join”? _____

8. In the text it says, “This simple but *brilliant* invention worked beautifully.” Another word for *brilliant* is...

- expensive
- intelligent
- sharp
- metallic


9. If your teacher said to you, “**Benjamin Franklin was the greatest American of all time,**” would this be an example of a fact or an opinion? Explain your answer.

10. What was the author's purpose in writing this selection?

- The author's purpose was to persuade the reader try and harness lightning's awesome power.
- The author's purpose was to inform the reader about Benjamin Franklin's many contributions to our country and the world.
- The author's purpose was to entertain the reader with funny kite flying stories about Ben Franklin.
- The author's purpose was to persuade the reader to study the Declaration of Independence and the Constitution.



Part III: Compare and Contrast: Use the following compare and contrast grid to discuss the following inventions and ideas created by Benjamin Franklin.

| <p>INVENTIONS</p> <p>OR</p> <p>IDEAS</p> <p>↓ ↓ ↓ ↓</p> | <p>Why was this invention important?</p> | <p>Explain this invention's function? What does it do? How does this invention or idea work?</p> | <p>Explain how you have benefited from this invention?</p>  | <p>Rank the inventions importance when compared to the others (1=most important and 5 being the least important).</p> |
|--|--|--|--|---|
| odometer | | | | |
| daylight savings | | | | |
| bifocals | | | | |
| lightning rods | | | | |

