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Benjamin Franklin By David Rent Etter, after Charles Willson Peale, after David Martin (1835) Independence National Historical Park

A Note to Teachers: These lesson plans are designed to teach students about Benjamin Franklin. Feel free to make as many copies as you need. You can also download this as a PDF from the education web page at www.nps.gov/inde.



Ben Franklin: Man of Many Talents Man for the 21st Century

Program Goal:

Students will gain an understanding of the life and times of Benjamin Franklin in a series of activities that carry Franklin's ideas to the present day.

Each lesson contains two basic components: the Background Dossier and the Assignment. Individual lessons may be taught in isolation or may be used together as part of a unit of study.

Beginning the Program:

It is recommended that teachers use one of the resources listed within these lesson plans to introduce the study of Franklin. There are several picture books listed that would work well for primary and intermediate students. Teachers at the secondary level may share portions of Franklin's autobiography, an excellent primary source.

Primary Classrooms:

Use the Background Dossier to frame lessons. These sheets will provide you with information that may be shared with students orally, or may be listed on wall charts. Students may complete all or part of the Assignment portion of these lesson plans as a whole class or in small groups.



Intermediate Classrooms:

Teachers distribute Background Dossiers to students who will use the information presented to complete assignments with group members. Additional resources may be provided by the teacher or may be obtained by having students search on the internet. Recommended resources and websites are included with these lessons.

There are five Assignments presented within these plans: Franklin the inventor, Franklin the musician, Franklin the community leader and diplomat, Franklin the writer and printer, and a man of multiple intelligences.

Options for use:

- 1. The teacher will choose the number of Assignments to be completed, and will divide the class into groups accordingly. Each of the groups will complete one of the Assignments. Each group will present their work to the whole class as a culminating activity. Using this option, teachers will be able to cover many topics about Franklin in a small amount of time.
- 2. This option will take more class time. The teacher will divide the class into cooperative learning groups. Each of these groups will complete <u>all</u> of the tasks involved in this unit of study. The teacher should distribute packets of Background Dossiers and Assignments. Students in each group will work as a team to complete all of the assignments. Team members will choose topics according to interests and personal experiences.

<u>Note:</u> With this lesson option, students have more choice; however, additional class time will be needed for completion of the project. Group work may be presented orally or displayed "museum style."



Secondary Classrooms:

These lessons are designed for application across the curriculum as well as for use in social studies classes. Background Dossiers may be used as a basis for individual research projects or whole class learning experiences. (See intermediate section for cooperative learning suggestions.)

Content area teachers may use these lessons as follows:

English: Utilize information on Franklin as a Writer to launch a study of Franklin's literary works.

Music: Investigate Franklin's accomplishments in music to study the history of music from this time period.

Math: Complex Magic Squares involve logic and mathematical reasoning skills. A study of Franklin's mathematical work will complement these areas of mathematics.

Science: The study of Franklin's inventions and experiments especially in the area of electricity will enhance lessons in this content area.

Teaching about Multiple Intelligences: High school teachers will find enclosed a study of Franklin's uncanny ability to utilize all areas of intelligence: musical, spatial, verbal-linguistic, logical-mathematical, natural, interpersonal, intrapersonal, and bodily-kinesthetic. This unit of study will give students the opportunity to identify their own learning styles while studying about Franklin's.



Ben Franklin	Name	
Man of Many Talents	Date	
Project Pre-test		
1. Ben Franklin was called a Renaissance man. Do you agree with this statement? Explain.		
2. In this unit, you will learn about to each item that you think is associ demonstrated that lightning is a fo invented a musical instrument		
charted the gulf stream published a newspaper signed the Declaration of Independ	dence	
his son was a British Official he attached a fan to a rocking chair loved playing games like chess wrote songs and ballads		
failed math in school enjoyed math puzzles called magic owned a printing business printed money		
invented the Pennsylvania fireplac wrote now popular sayings in his a started the first lending library in A organized the first volunteer fire de	lmanac America epartment in America	
encouraged the use of lottery tickers served as Postmaster General invented the lightning rod created the first fire insurance com		
John said, <i>"No one alive today could ever</i> Sarah replied <i>, "That's not true. Even yot that would make you a lot like Ben."</i>	r be like Ben Franklin." • could be like Ben Franklin. You could do things today	
3. Who do you agree with? Is Sarah Franklin?	correct? Could a fifth grader like John be like Ben	



4. A patent is:

- a. a design often used as a model
- **b.** a document that provides protection for an invention
- **c.** a type of shiny leather
- **d.** both a and b

5. What is propaganda?

- a. a plan for spreading one's opinions or beliefs
- **b.** an item that serves as scenery for a play
- c. the process of being organized
- **d.** great wealth or power

6. Which of these is associated with the glass armonica?

- a. tunes or melodies
- **b.** water
- **c.** the use of pedals
- **d.** all of the above
- **e.** none of the above

Historical Park which is part of the National Park Service.	What is the function of the			
National Park Service?				

7. Much of the information about Franklin is housed at Independence National

8. Write the name of the object below the picture.









Creating a Living Timeline

The following lesson may be done to help students understand the depth and breadth of Franklin's accomplishments.

Before the lesson: Print and cut out the timeline cards included in these plans. Important events in Franklin's life are listed on these 32 cards. Teachers of middle school and high school may wish to include the events that are printed in red (world events).

Activity: Start by asking the class to name a scientist, an inventor, a diplomat, a writer, a printer, a musician, and a leader. List all of the answers on the board. Then, challenge the students to name one person who did all of these things. Discuss all answers and if Benjamin Franklin was not mentioned, suggest his name to the class and discuss his candidacy.

Introduce the term Renaissance Man. Explain that the word Renaissance means "rebirth." Leonardo Da Vinci was considered such a man because he was knowledgeable in a wide range of fields. Today, a man who has acquired profound knowledge or proficiency in more than one field is considered to be a Renaissance Man (or Woman). Record this information on a wall chart for students to refer to during their study of Franklin.

Distribute one timeline card to each student. Students will assemble themselves in chronological order to create a living timeline. Call on individuals to share the important event on their cards. This may be done orally, by acting out the event or by illustrating it on a small poster.

Note: The teacher may use the cards with Franklin event dates for lower elementary, the cards with Franklin and world event dates for upper elementary, the cards with Franklin events without dates for intermediate, and the cards with Franklin and world events and no dates for secondary students.

By creating this timeline, students will create a visual representation of the scope of Franklin's many accomplishments.



Close: Return to the definition of a Renaissance Man. Why might Franklin deserve this title? Discuss. Teacher should refer back to this term while teaching this study of Franklin.



1706 Benjamin Franklin is born in Boston 1718-1723
Franklin works as an apprentice in his brother James' workshop

1722 Writes his Silence Dogood letters 1723
Franklin runs away to New York, then Philadelphia

1724-1726 Franklin works in London print shop 1727
Franklin founds the Junto with his Philadelphia friends

1728
Franklin opens his own workshop with partner,
Hugh Meredith

1729 Franklin starts publishing the *Pennsylvania Gazette*



1730 Franklin marries Deborah Read 1731
Franklin sets up America's first subscription library

1731 Franklin's son William is born 1732
Franklin begins publishing
Poor Richard's Almanac

1736
Franklin organizes
Philadelphia's Union Fire
Company

1736-1751 Franklin serves as clerk of the Pennsylvania Assembly

1737
Franklin becomes
Postmaster of Philadelphia

1740
Franklin invents the
Franklin stove also called
the "Pennsylvania
fireplace"



1743
Franklin's daughter "Sally" is born

1746
Franklin begins experimenting with electricity

1748
Franklin retires from printing

1751
Franklin helps found the Academy of Philadelphia (later University of Pennsylvania)

1751
Franklin helps found the Pennsylvania Hospital

1751
Franklin becomes a member of the Pennsylvania
Assembly

1752 Franklin's famous kite experiment with electricity 1753
Franklin becomes
Postmaster-General for the
Northern Colonies
(until 1774)



1757
Franklin represents the Pennsylvania Assembly in London (until 1762)

1762
Franklin publishes a description of his glass armonica

1764
Franklin defends Native
Americans from the Paxton
Boys

1764
Franklin serves in London, as first agent for PA, then GA, NJ, and MA (until 1775)

1766
Franklin is a witness in Parliament on Stamp Act issue

1771
Franklin starts to write his autobiography

1775
Franklin serves as a delegate to the Second Continental Congress

1776
Franklin serves on a committee to draft the Declaration



1777
Franklin negotiates for French support of the

1782-1783
Franklin negotiates treaty with England along with John Adams and John Jay

1785
Franklin is elected president of the Pennsylvania Council

American Revolution

1787
Franklin attends
Constitutional Convention

1789
Franklin becomes president of Pennsylvania
Abolitionist Society

1790 Franklin dies in Philadelphia on April 17

1754-1763 French and Indian War 1765
Under King George III,
Parliament passes the
Stamp Act



1770 Boston Massacre 1773 Boston Tea Party

1774
Parliament passes the
Intolerable Acts

1774
Louis XVI becomes King of France

1775
American Revolution begins

1783
Treaty of Paris ends the American Revolution

1789
French Revolution
begins with the storming of
the Bastille

1790 U.S. Capital in Philadelphia



Benjamin Franklin is born in Boston

Franklin works as an apprentice in his brother James' workshop

Writes his Silence Dogood letters

Franklin runs away to New York, then Philadelphia

Franklin works in London print shop

Franklin founds the Junto with his Philadelphia friends

Franklin opens his own workshop with partner, Hugh Meredith

Franklin starts publishing the *Pennsylvania Gazette*



Franklin marries Deborah Read

Franklin sets up America's first subscription library

Franklin's son William is born

Franklin begins publishing *Poor Richard's Almanac*

Franklin organizes
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Assembly

Franklin's famous kite experiment with electricity

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Franklin represents the Pennsylvania Assembly in London (until 1762) Franklin publishes a description of his glass armonica

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Franklin is a witness in Parliament on Stamp Act issue

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Franklin negotiates for French support of the American Revolution

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Constitutional Convention

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Franklin dies in Philadelphia on April 17

French and Indian War

Under King George III, Parliament passes the Stamp Act



Boston Massacre

Boston Tea Party

Parliament passes the Intolerable Acts

Louis XVI becomes King of France

American Revolution begins

Treaty of Paris ends the American Revolution

French Revolution begins with the storming of the Bastille

U.S. Capital in Philadelphia



Assignment I

When Ben Franklin needed something that was not invented yet, he simply made it himself. For example, when he couldn't reach the books on the top shelf of his library, he designed and made an arm extender. He named this invention the long arm.

First, Ben thought about the problem. Then he sketched his design, identifying the materials he would need to build his invention. Ben believed that, "Necessity is the mother of invention." *

Look around you. Is there something that you could really use to make your life easier or safer? With the students in your group, identify some of these needs. List these needs on your invention proposal sheet. Brainstorm ideas for solutions. When you have made a decision about an invention, sketch a draft at the bottom of the proposal sheet. Ben carefully labeled his drawings, and you will need to label your drawing too. List the materials you will use and write a clear description of how your invention works.

Transfer this information to a poster to share with the class.

Internet Connection: What is a patent?

Inventors patent their inventions so that others will not copy their ideas and profit from them. Ben Franklin chose not to patent his inventions, even though the Pennsylvania Assembly offered him a patent on one of his inventions, the Franklin stove. You can learn more about patents and inventions by going to the U.S. Patent Office website - http://www.uspto.gov/go/kids. Click on *I magination Machine* and then on *Hatch an I dea*. This task will help you to "hatch" an invention idea for this project.

*Ben's sayings are quite famous. Did he write this one? What do you think this saying means?



Background Dossier One

Ben Franklin, Inventor

Here are some of Mr. Franklin's inventions:

- One of the first electric batteries using alternating layers of lead and glass
- Experimented with the electrostatic machine which was an early version of an electric generator
- Odometer to measure approximate mileage (this was attached to the axle of a wagon wheel)
- Attached a fan to a rocking chair and a butter churner to another
- First school chair with an attached desk for an arm
- Bifocals so he could see near and far without two pairs of glasses
- Mechanical extending long arm for reaching books on top shelves (the Long Arm)
- Library chair with fold down steps for climbing
- Swim fins for the hands to move more quickly through the water—He invented these when he was just 11 years old!
- Franklin Stove- which made the fireplace more efficient
- · Lightning rod
- Four-sided music stand, so that four musicians could play at once
- Glass armonica
- 4 paned whale oil street lamps
- Hatches on roofs to allow access during a building fire

Franklin could have become rich from his inventions, but he did not. The state assembly of Pennsylvania offered him a patent for the Franklin Stove, but he refused it. He wanted his inventions to be used and to benefit everyone. Why do you think he felt this way?



Our Invention Proposal

Names of group members		
Brainstorm: List your ideas/needs below.		
Your assignment is to create an invention to solve one of the problems you dentified. Which one will you work on?	ou have	
Make a rough sketch of your invention below. Label your drawing		

On the back of this sheet, describe how your invention will work.



Assignment II

Ben Franklin loved listening to music. He enjoyed singing, especially singing along with fellow Philadelphians. Though he loved songs, he thought that some of the music of his time was too repetitive; therefore, he wrote his own songs. His original songs told about the times and people of his era. This type of song is called a ballad. Franklin even wrote a ballad about Blackbeard, the pirate. He also wrote a tune that praised his wife, Deborah. He called this song, "My Plain Country Joan."

If he lived today, Franklin would probably have a lot of songs downloaded on his MP3 player. He would most likely enjoy rap and country songs that tell stories. The repetition of some present day rock songs may not have "sat well" with Mr. Franklin. He believed that the words of songs should be pronounced precisely, and that the lyrics should tell a story.

Benjamin Franklin frequented concerts in both America and Europe, where he served as a diplomat for 28 years. He even attended Handel's final performance of "The Messiah." At this time, the angelic organ was a popular instrument. It was made of a series of drinking glasses. Franklin improved upon this instrument by creating the glass armonica.

With the students in your group, you will write a song or rap about Ben Franklin. You may "borrow" a tune from a familiar song, or create your own original music. (See example.) You will perform your original song or create a video version for the class. Please provide a copy of your lyrics for the class, so that they may sing along. Singing with friends was one of Franklin's favorite activities!

Internet Connection: What is a glass armonica?

You may play the glass armonica, see a movie of an armonica being played, and find more facts at: http://www.fi.edu/franklin/musician/musician.html



Ben Franklin Song

A music teacher from Texas, Phyllis Montgomery, wrote these words and matched them to the tune of Yankee Doodle.

Verse 1: Our country oh, so young and new Ben, smarter than the others.
For two years he did go to school, Then apprenticed for his brother.

Chorus: Benjamin Franklin, he's our man, Inventor, printer, statesman, Improved the life of everyman In our American nation.

Verse 2: Inventing rods to guard our homes From lightning's sparks so fiery; Ladder chairs to climb upon In many – a - home library.

Chorus: Benjamin Franklin, he's our man, I nventor, printer, statesman, I mproved the life of everyman In our American nation.

Verse 3: My dad says, "Taxes aren't much fun!"
They turned the colonists sour.
The Stamp Act disappeared from view,
For Ben's words had great power!

Chorus: Benjamin Franklin, he's our man, I nventor, printer, statesman, I mproved the life of everyman In our American nation. Verse 4: King George then placed a tax on tea,

Not so great a notion!

Men dressed themselves as Indians.

The tea went in the ocean.

Chorus: Benjamin Franklin, he's our man,

I nventor, printer, statesman.
I mproved the life of everyman

In our American nation.

Verse 5: Tom Jefferson sought Ben Franklin's aide

while writing our Declaration.

"these truths to be self-evident,"

were Franklin's own creation.

Chorus: Benjamin Franklin, he's our man,

Inventor, printer, statesman.

Improved the life of everyman

In our American nation.

Verse 6: Our Constitution protects our rights,

And guards our people's freedom.

Thanks to our founding father's work

and especially Benjamin Franklin!

Chorus: Benjamin Franklin, he's our man,

Inventor, printer, statesman.

Improved the life of everyman

In our American nation.

Background Dossier Two

Ben Franklin, Musician

Here are some facts about Mr. Franklin's musical life:

- At age seven, Ben spent all of his money on a penny whistle
- Played the harpsichord, harp, guitar, viola and violin.
- I nvented the glass armonica, which was an improvement over the angelic organ (a series of musical glasses)
- Played his armonica in the evening with his daughter, Sally, as she played her harpsichord
- Brought his armonica to dinner parties to play for his associates and friends
- Invented the four-sided music stand which allowed four musicians to play and read their music together while looking at one another
- Composed historical ballads
- Objected to "needless" repetition in songs
- Preferred lyrics to be enunciated
- Studied music as a science, and was knowledgeable in the history, theory and harmony of music
- Had a music room on the third floor of his home, the Blue Room, where he
 housed his instruments: a harpsichord, a viola, a Welsh harp, and a set of
 tuned bells for use in tuning his harpsichord
- Loved playing and singing Scottish tunes
- Thought singing was a melodious way of talking

Franklin said, "Of all of my inventions, the glass armonica has given me the greatest personal satisfaction."





Assignment III

Benjamin Franklin was a man of action. He didn't just sit around thinking about his community; he met with his fellow citizens to discuss community matters. The meetings were called Junto meetings and were the first community improvement meetings in the colonies. The Junto was the predecessor of present day organizations.

Today, we have many Civic Action groups that work to make local communities better places in which to live. These groups have names like: The Civic Club, Interact, Rotaract, Rotary Clubs, Key Club, Lion's Club, the YMCA, and The United Way.

Think about the Community that you live in. Can you think of a facility or service that you feel would improve your school or neighborhood? Discuss some of your community's needs with your group members. You will form a civic group of your own that will perform community service. Give your group a name, and then brainstorm solutions for making your neighborhood a better place in which to live.

Internet Connection: What can ordinary citizens do?

You have the power to make things happen in your neighborhood. You have lots of great ideas, but how will you turn your ideas into actions? A group of school children from Florida formed The Monday Group. They work on a new neighborhood project every year. You can read about this group on: http://www.farmers.com/FarmComm/AmericanPromise/downloadables/amprom_community/amprom_06.html

A Franklin Quote: "The noblest question in the world is, 'What good may I do in it?'."



Background Dossier Three

Ben Franklin, Community Leader and Diplomat

Here are some of Mr. Franklin's community contributions:

- Created the first lending library
- Organized the first volunteer fire department
- Opened the first post office
- Saw a need for Fire Insurance, and thus established the first fire insurance company
- Founded the Junto, a club "for mutual improvement"
- Helped to get the streets of Philadelphia paved and cleaned
- Urged that an army be formed to protect the city
- Formed the American Philosophical Society
- Initiated reform of the Philadelphia Police Department
- Member of the Pennsylvania Assembly
- Defended Native Americans in Philadelphia from the Paxton Boys
- Witness in Parliament on the Stamp Act issue
- Established the Pennsylvania Hospital, the first public hospital in the colonies
- Established the Philadelphia Academy and Charitable School which eventually became the University of Pennsylvania
- Gathered intelligence for the Committee of Secret Correspondence
- Witness in Parliament on the Stamp Act issue
- Delegate to the 2nd Continental Congress
- Served on the committee of 5 to draft the Declaration of Independence
- Negotiated peace treaty with England in 1783
- Delegate to the Constitutional Convention
- President of the Pennsylvania Abolitionist Society



This fire mark identified homes with Franklin's fire insurance



Assignment IV

Benjamin Franklin began working as a printer when he was only 12 years of age, and his fondness for the printed word continued to flourish throughout his entire life. He loved to read and write, and he savored those times when he was free to sit down with a pen or a book.

If Benjamin Franklin were alive today, he would be fascinated by the study of writing genres. He composed all types of writings: diaries, advertisements, songs, letters, poetry, and his autobiography. In addition, he assisted in writing the Declaration of Independence, The Treaty of Alliance with France, and other government documents.

Franklin began his writing career in 1722 at the age of 16 when he wrote 14 letters to the editor. He secretly mailed these letters to his brother's newspaper, *The New England Courant*, but instead of signing them with his name, he signed them with the penname "Silence Doogood" a supposed anonymous woman! Mrs. Dogood promoted women's rights, criticized the students of Harvard, and made other remarks about the people of Boston. Franklin's letters of propaganda affected citizen's views. Some people agreed with Mrs. Dogood. Some were angry with the letters. For Franklin, it was his first taste of the "power of the press."

Propaganda is a plan or method for spreading one's opinions or beliefs. This is often done to sell a product or promote an idea. Today, advertisers use many forms of propaganda to sell their products and ideas. You and the members of your group will investigate print ads in your favorite magazines. Select a few that use propaganda techniques. Discuss these ads, and then plan a lesson in which you teach your classmates about propaganda. Prepare a poster or PowerPoint presentation for your lesson.

Internet Connection:

To view scanned copies of some of Franklin's writings, go to http://www.loc.gov/exhibits/treasures/franklin-home.html. To see scanned copies of the Declaration of Independence and the Treaty of Alliance with France, go to http://www.ourdocuments.gov. Click on 100 Milestone Documents.



Background Dossier Four

Ben Franklin, Printer and Writer

Here are some facts about Mr. Franklin's life as a printer/writer:

- Began working as an apprentice printer for his brother at age 12
- Wrote letters to <u>The New England Courant</u> under the pseudonym of Silence Dogood at age 16
- Worked in London print shops from 1724-1726
- Opened his own printing company in Philadelphia
- Bought and then printed <u>The Pennsylvania Gazette</u>
- Printed U.S. currency
- Printed 26 editions of Poor Richard's Almanack, in which he printed calendars, dates of fairs, court dates, times of sunrise and sunset, tides, phases of the moon and eclipses, various weather predictions, and sayings about self-improvement. This became the best selling book in the colonies.
- Wrote his autobiography
- Helped with drafting the Declaration of Independence (although Jefferson did most of the writing)
- Wrote many letters, household inventories, and expense ledgers
- Published America's first German newspaper
- Kept a diary on his sea journeys in which he charted the Gulf Stream



Franklin's sayings, or aphorisms, were very popular!

"Fish and visitors stink after three days."

"Three may keep a secret, if two of them are dead."



Assignment V

Benjamin Franklin's interests and talents vary greatly. Some people are visual learners, some auditory, and some learn by using touch. Strengths may be in the field of music, mathematics, or the study of natural history.

The theory of multiple intelligences was developed by Howard Gardner to assist people in identifying their strongest learning modalities. What intelligence do you think was Franklin's strongest? What is your area of strength?

With the members of your group, use the provided materials to find out about yourself and Franklin. Follow these steps:



- 1. With yourself in mind, complete the checklist, "What are my Learning Strengths?" This activity will help you to find out what your strengths are. It will also help you to identify the areas that you may like to improve upon.
- 2. Now go back and complete the "What are my Learning Strengths?" sheet with Franklin in mind. Put an "F" next to each trait that applies to Franklin.
- 3. Now read the packet of information on Franklin. Were you right about Franklin?

What kind of leaner are you? What kind of learner was Ben? Develop an essay showing how you use each learning style by citing specific examples. Then, develop a similar essay describing how Ben Franklin used each learning style. Do you have anything in common with Franklin?



What are my Learning Strengths?

Research shows that all human beings have at least eight different types of intelligence. Depending on your background and age, some intelligences are more developed than others. This activity will help you find out what your strengths are. Knowing this, you can work to strengthen the other intelligences that you do not use as often.

Verbal/ Linguistic Intelligence	Logical/ Mathematical Intelligence
 I enjoy telling stories and jokes I have a good memory for trivia I enjoy word games (e.g. Scrabble and puzzles) I read books just for fun I am a good speller (most of the time) In an argument I tend to use put-downs or sarcasm I like talking and writing about my ideas If I have to memorize something I create a rhyme or saying to help me remember If something breaks and won't work, I read the instruction book first For a group presentation I prefer to do the writing and library research 	 I really enjoy my math class I like logical math puzzles or brain teasers I find solving math problems to be fun If I have to memorize something I tend to place events in a logical order I like to find out how things work I enjoy computer and any math games I love playing chess, checkers or Monopoly In an argument, I try to find a fair and logical solution If something breaks and won't work, I look at the pieces and try to figure out how it works For a group presentation I prefer to create the charts and graphs
Visual/ Spatial Intelligence I prefer a map to written directions I daydream a lot I enjoy hobbies such as photography I like to draw and create If I have to memorize something I draw a	 Bodily/ Kinesthetic Intelligence My favorite class is gym since I like sports I enjoy activities such as woodworking, sewing and building models When looking at things, I like touching them I have trouble sitting still for any length of time I use a lot of body movements when talking If I have to memorize something I write it out a number of times until I know it I tend to tap my fingers or play with my pencil during class In an argument I tend to strike out and hit or run away If something breaks and won't work I tend to play with the pieces to try to fit them together For a group presentation I prefer to move the props around, hold things up or build a model



Musical/ Rhythmic Intelligence	Interpersonal Intelligence
 I enjoy listening to CDs and the radio I tend to hum to myself when working I like to sing I play a musical instrument quite well I like to have music playing when doing homework or studying If I have to memorize something I try to create a rhyme about the event In an argument I tend to shout or punch or move in some sort of rhythm I can remember the melodies of many songs If something breaks and won't work I tend to tap my fingers to a beat while I figure it out For a group presentation I prefer to put new works to a popular tune or use music 	 I get along well with others I like to belong to clubs and organizations I have several very close friends I like helping teach other students I like working with others in groups Friends ask my advice because I seem to be a natural leader If I have to memorize something I ask someone to quiz me to see if I know it In an argument I tend to ask a friend or some person in authority for help If something breaks and won't work I try to find someone who can help me For a group presentation I like to help organize the group's efforts
I like to work alone without anyone bothering me I like to keep a diary I like myself (most of the time) I don't like crowds I know what I am good at and what I am weak at I find that I am strong-willed, independent and don't follow the crowd If I have to memorize something I tend to close my eyes and feel the situation In an argument I will usually walk away until I calm down If something breaks and won't work, I wonder if it's worth fixing up For a group presentation I like to contribute something that is uniquely mine, often based on how I feel	 Naturalist Intelligence I am keenly aware of my surroundings and of what goes on around me I love to go walking in the woods and looking at the trees and flowers I enjoy gardening I like to collect things (e.g., rocks, sports cards, stamps, etc.) I think I would like to get away from the city and enjoy nature. If I have to memorize something, I tend to organize it into categories I enjoy learning the names of living things in our environment, such as flowers and trees In an argument I tend to compare my opponent to someone or something I have read or heard about and react accordingly If something breaks down, I look around me to see what I can find to fix the problem For a group presentation I prefer to organize and classify the information into categories so it makes sense



Background Dossier Five

Ben Franklin, Man of Many Talents

Benjamin Franklin: Spatial Intelligence

Benjamin Franklin enjoyed playing the game of chess. Chess is played on a game board with 64 squares, and each piece can move in its own unique way. The object of the game is to "checkmate" your opponent's king by blocking all routes on this piece's escape.

Franklin thought that life was like the game of chess, and that people could learn important lessons from it. Franklin said that chess developed the mind, taught how to be gracious whether you have won or lost the game, and taught how to deal with competition.

Try playing a game of chess, either on a real chess board or on the computer. Do you agree with Franklin that chess improves the mind and can teach life lessons?

"The Game of Chess is not merely an idle amusement. Several very valuable qualities of the mind, useful in the course of human life, are to be acquired and strengthened by it, so as to become habits ready on all occasions for life is a kind of Chess, in which we have points to gain, and competition or adversaries to contend with, and in which there is a vast variety of good and ill events that are, in some degree, the effect of prudence, or want of it. By playing at Chess then, we may learn: First, Foresight... Second, Circumspection... Third, Caution...

And lastly, we learn by Chess the habit of not being discouraged by present bad appearances in the state of our affairs the habit of hoping for a favorable chance, and hat of persevering in the secrets of resources."

-Benjamin Franklin, 1779



Benjamin Franklin: Naturalist Intelligence

Benjamin Franklin was curious about the world around him. He wondered about whether lightening was electricity, about how ocean currents affected traveling ships, and about how stoves could best spread heat and light.

Franklin created inventions that improved people's lives, like bifocal glasses, the lightening rod, and the Pennsylvania stove. He also was concerned about pollution and the environment, and wrote letters about the deplorable state of Dock Creek in Philadelphia, which was like an open sewer. Franklin insisted that Dock Creek was a health hazard and that the tanneries that were dumping their waste into it should have to move or the creek should be covered over.

Take a look at some of the ways that Franklin tried to make people's lives better through his inventions and studies of how nature worked.



The Pennsylvania Stove ("Franklin Stove")

Fireplaces were the main source of heat for homes in the 18th century, but most fireplaces of the day were not very efficient. They produced a lot of smoke and most of the heat that was generated went right out the chimney. Sparks in the home were of great concern because they could cause a fire that would quickly destroy the homes, which were constructed mainly with wood. Franklin developed a new style of stove with a hood-like enclosure in the front and an airbox in the rear. The new stove and reconfiguration of the flues allowed for a more efficient fire, one that used one quarter as much wood and generated

twice as much heat. When offered a patent for the fireplace's design, Franklin turned it down. He did not want to make a profit. He wanted all people to benefit from his invention.

The Lightning Rod

In 1752 Franklin conducted his famous kite flying experiments and proved that lightning is electricity. During the 1700s lightning was a major cause of fires. Many buildings caught on fire when struck by lightning and kept burning because they were built mainly of wood.

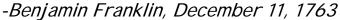
Franklin wanted his experiment to be practical, so he developed the lightning rod. A tall rod is attached to the outside wall of the house. One end of the rod points up into the sky; the other end is connected to a cable, which stretches down the side of the house to the ground. The end of the cable is then buried at least ten feet underground. The rod attracts the lightning and sends the charge into the ground rather than the house, which helps to decrease the amount of fires.

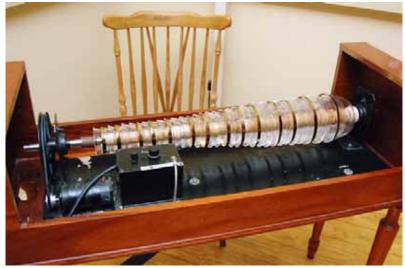
Benjamin Franklin: Musical Intelligence

Benjamin Franklin loved to listen to music. He invented a musical instrument called the glass armonica. Franklin had attended a concert in England in which music was produced by moving wet fingers around the rims of wineglasses. In 1761, Franklin used this basic idea to create his own musical instrument, which was made up of 37 glass bowls of different sizes, stacked one on top of the other and then laid horizontally across the table then attached to a foot pedal. By using the foot pedal, the musician could spin the bowls and produce sounds by pressing on the glasses with their wet fingers. Franklin played his glass armonica and so did many other 18th century musicians. Mozart and Beethoven wrote music for the glass armonica.

Go to http://fi.edu/franklin/musician/musician.html or http://www.pbs.org/benfranklin/I3_inquiring_glass.html and listen to the armonica music. What does it sound like? Does it remind you of any other sounds? Are the sounds pleasing to your ear?

"I play some of the softest Tunes on my Armonica, with which Entertainment our People here are quite charmed and conceive the Scottish Tunes to be the finest in the World. And indeed, there is so much simple Beauty in many of them, that my Opinion they will never die, but in all ages find a Number of Admirers."







Benjamin Franklin: Logical-Mathematical Intelligence

Benjamin Franklin struggled in his math classes in school. But when he was older and had the job of Clerk of the General Assembly of Pennsylvania, he would often get bored and like to figure out magic squares to keep his mind sharp.

Magic Squares are math puzzles. The number in each row of the square (horizontal, vertical, and diagonal) will add up to the same exact number if the square is a Magic Square.

Look at the squares below. Add the numbers in each row to make sure that these are really magic squares. Here are two finished examples below. What number does each one add up to?

8	1	6
3	5	7
4	9	2

1	15	14	4
12	6	7	9
8	10	11	5
13	3	2	16

"What science can there be more noble, more excellent, more useful for men, more admirably high and demonstrative, than this of the mathematics?"

-Benjamin Franklin



Benjamin Franklin: Intrapersonal Intelligence

Benjamin Franklin was very interested in improving himself. He read many books and tried to take lessons from them on how to live a better life. Franklin even created a self-improvement plan that he tried to follow. In his plan, Franklin made a list of thirteen virtues he was trying to follow and make a permanent part of his character. He focused on one virtue each week, and made marks in a notebook whenever he failed to live up to that virtue.

Franklin checked his virtue for the week each evening. He continued the program for over two years before he discontinued doing his nightly reflections. With thirteen virtues, he went through the cycle four times each year. In his autobiography he states that this self-improvement plan had a very beneficial effect throughout his life even though he didn't feel he had been entirely successful at achieving all the virtues he intended to. He admits that pride was the one most difficult for him to subdue, and that his failure was probably "for the better" since, had he "completely overcome it, I should probably be proud of my humility." (He would have been proud that he wasn't proud!)

Do you have a method for trying to improve yourself? Is it similar to Franklin's plan?

"My list of virtues contained at first but twelve. But a Quaker friend having kindly informed me that I was generally thought proud, that my pride showed itself frequently in conversation, that I was not content with being in the right when discussing any point, but was overbearing and rather insolent – of which he convinced me by mentioning several instances – I determined endeavoring to cure myself, if I could, of this vice of falling among the rest, and I added humility to my list, giving an extensive meaning to the word."

-Benjamin Franklin, Autobiography



Benjamin Franklin: Interpersonal Intelligence

When he was a young man, Benjamin Franklin read many books and tried to take lessons from them on how to work well with others. Franklin tried to listen more than speak during conversations. He found ways to win an argument without yelling, but instead through patience, logic, and perseverance.

As a result, when he became an adult, Franklin worked well with others. He could cooperate and compromise in order to achieve his goals. He founded the Junto, which was a group of young tradesmen and artisans who wanted to improve themselves and their community in Philadelphia. Franklin was a delegate to the Continental Congress and helped draft the Declaration of Independence. Later, he traveled to France as a diplomat for the United States. Franklin was also able to help the members of the Constitutional Convention make compromises so that the United States Constitution could be created and approved.

Take a look at the revisions that were made to Thomas Jefferson's rough draft of the Declaration of Independence at http://www.loc.gov/exhibits/treasures/trt001.html. Franklin made some of these suggested changes, including changing "We hold these truths to be sacred and undeniable" to "We hold these truths to be self-evident".

How do you think that Jefferson felt while changes were being made to the document he drafted? How do you think Franklin might have encouraged him? (Check out the book *The Hatmaker's Sign* by Candace Fleming.)





Benjamin Franklin: Bodily-Kinesthetic Intelligence

Franklin loved to swim! He developed an early version of swim fins. As a boy, he read a book about swimming and quickly taught himself the basic swimming

strokes. He built himself wooden paddles for his hands and wooden fins for his feet to help him swim faster. He used a kite in the breeze to pull him along, making it easier to swim. He said that the swim fins helped him to swim faster and reduced what he called a "laborious and fatiguing operation."

Compare modern swim paddles and swim fins with the wooden versions that Franklin invented as a boy. What improvements have been made to swim fins and swim paddles today?



Benjamin Franklin: Verbal-Linguistic Intelligence

Benjamin Franklin loved to read and write. He wrote in his autobiography that he did not remember a time when he could not read. As a boy, Franklin read books on many different subjects. He tried to improve his writing skills by rewriting passages from the books he has read. Sometimes Franklin rewrote a prose passage as poetry, or rewrote a poem as prose.

In the mid-1700s, Franklin produced Poor Richard's Almanac. In it, he included some witty phrases and sayings that people enjoyed. Some of these sayings (also know as maxims or aphorisms) were ones that Franklin had heard from other people, some were ones that he revised slightly, and some were sayings that Franklin made up.

Take a look at the sayings from Poor Richard's Almanac below. Can you translate these sayings into your own words? Do these sayings still hold true today?

- ➤ He that lies down with the dogs shall rise up with fleas.
- ➤ The Things that hurt, Instruct.
- > A True Friend is the best Possession.
- > Speak little, do much.
- There was never a good Knife made of bad Steel.
- The Doors of Wisdom are never shut.
- ➤ A long Life may not be good enough, but a Good Life is long enough.
- Haste Makes Waste.
- > Well done is better than well said.
- The most noblest question in the world is, What Good may I do in it?
- If you would not be forgotten as soon as you are dead and rotten, either write things worth the reading, or do things worth the writing.

Extension Activities

The Absent Architect

Benjamin Franklin was in Europe when his new home was being built on Market Street. He sent detailed plans for the construction of the building via letters to his wife, Deborah.

Ask students to design a modern home that would be suitable for Franklin to live in today. Tell them to consider his many hobbies, his career, his family, and his lifestyle.

Plan to visit Franklin Court in Philadelphia (between 3rd and 4th Streets). There, the students will see the remains of the actual construction, and the "steel ghost structure" of Franklin's home. The underground museum at this site offers a glimpse of Franklin's life.

Aphorisms Updated

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

Today, one might have a different view of this old expression. It might be said, "Early to bed and early to rise makes you health conscious and will help your financial situation."

Provide students with a list of Franklin's aphorisms, or use the one provided, and ask them to put Franklin's aphorisms in the students' own words.

Invention Extension

Challenge students to build the inventions that they sketched as part of this study. Inventions may be displayed at an "Invention Convention" or school fair.



The Sayings of Benjamin Franklin

Franklin said: Speak little, do much. What do you say?
Franklin said: Early to bed and early to rise makes a man healthy, wealthy and wise. What do you say?
Franklin said: Fish and visitors smell after three days. What do you say?
Franklin said: Love your enemies, for they will tell you your faults. What do you say?
Franklin said: He that lieth down with the dogs shall rise up with the fleas. What do you say?
Write an original saying here:



Ben Franklin	Name	
Man of Many Talents	Date	
Project Post-test		
Ben Franklin was called a Renaissance man. Do you agree with this statement? Explain		
2. In this unit, you will learn about s to each item that you think is associa	some of Franklin's achievements. Put a check next	
demonstrated that lightning is a for		
invented a musical instrument		
charted the gulf stream		
published a newspaper		
signed the Declaration of Independ	lence	
signed the Constitution		
his son was a British Official		
he attached a fan to a rocking chair loved playing games like chess		
wrote songs and ballads		
failed math in school		
enjoyed math puzzles called magic	squares	
owned a printing business		
printed money		
invented the Pennsylvania fireplace		
wrote now popular sayings in his al		
started the first lending library in A		
organized the first volunteer fire de encouraged the use of lottery ticket	epartment in America	
served as Postmaster General	.s	
invented the lightning rod		
created the first fire insurance com	pany in America	
John said, "No one alive today could ever	be like Ben Franklin." I could be like Ben Franklin. You could do things today	
that would make you a lot like Ben."	t could be like ben 1 Talikilli. Tou could do tilligs today	
	correct? Could a fifth grader like John be like Ben	
Franklin?		



4. A patent is:

- a. a design often used as a model
- **b.** a document that provides protection for an invention
- **c.** a type of shiny leather
- **d.** both a and b

5. What is propaganda?

- a. a plan for spreading one's opinions or beliefs
- **b.** an item that serves as scenery for a play
- c. the process of being organized
- **d.** great wealth or power

6. Which of these is associated with the glass armonica?

- a. tunes or melodies
- **b.** water
- **c.** the use of pedals
- **d.** all of the above
- **e.** none of the above

Historical Park.	What is the function of the National Park Service?

7. Much of the information about Franklin is housed at Independence National

8. Write the name of the object below the picture.









Social Studies Standards Correlation:

PA:	8.1 A	Understands chronological thinking. Distinguish between
		past/present events. Read timelines
	8.1 B	Explain and analyze historical sources (data, graphs, and tables)
	8.1 D	Utilize primary sources
	8.2 A, 8.3A	I dentify individuals who contributed to PA and US history (Ben
		Franklin)
	8.2 C	I dentify and explain how change has influenced PA history
		(Innovations)
NJ:	6.1 A	Apply terms related to time including past/present. Retell events with appropriate sequencing. Develop timelines. Summarize information in written, graphic and oral formats.
	6.4 B	Recognize the names of major figures in American history. Discuss contribution of important figures in US history, events and personalities.

Language Arts Standards Correlation:

PA:	1.2 A	Read and understand essential content of informational tents, documents.
	1.4 B	Write informational pieces
	1.6 C	Demonstrate awareness of audience
	1.6 F	Use media for learning purposes
	1.8 C	Write and present the main ideas from research
NJ:	3.1 G	Differentiate between fact/opinion and bias and propaganda in texts
	3.1 H	Interpret and use graphic sources of information such as maps, graphs, and timelines
	3.1 H	Produce projects using visuals, media, and/or technology
	3.2 D	Write to inform—Gather, select and organize information appropriate
		to a topic, task, and audience
	3.2 D	Use a variety of primary sources to understand the value of each
		when writing a project
	3.3 D	Prepare, rehearse, and deliver



Science/ Technology Standards Correlation:

PA:	3.2 C	Recognize and use the elements of scientific inquiry to solve problems (inventions)
	3.2 D	Know and use the design process to solve problems
NJ:	5.1 A	Raise questions about world around us and be willing to seek answers through careful observation and experience
	5.2 B	Hear, read, write, and talk about scientists and inventors in historical context
	5.2 B	Describe the impact of major events and people in the history of science
	5.2 B	Describe historical origin of important scientific knowledge

Arts/ Humanities Standards Correlation:

PA:	9.2	A Explain the historical, cultural, and social context of an individual in
		the arts
	9.2 H	I dentify, describe, and analyze the work of PA artists in dance, music,
		theatre, and visual arts
	9.1 A	Know and use the elements and principles of music to create works in
		the arts or humanities
NJ:	1.1 A	Compose simple works of art in response to stylized characteristics of
		various time periods
	1.1 A	Examine works of art that have a functional purpose
	1.1 B	Compose specific cultural messages in works of art



Web Resources for teachers and students

Benjamin Franklin

http://www.pbs.org/benjaminfranklin/

Benjamin Franklin: Glimpses of the Man

http://sln.fi.edu/franklin/rotten.html

Ben's Guide

http://bensguide.gpo.gov/benfranklin/

Franklin Court: Kids' Corner

http://www.nps.gov/inde/Franklin_Court/pages/kids.html

Franklin Court: Franklin's Life http://www.nps.gov/inde/Franklin_Court/Pages/franklinprinter.html



Resources for Teachers (Print)

Block, Syemour Stanton. <u>Benjamin Franklin, genius of Kites, flights and voting rights</u>. McFarland & Co., 2004.

Franklin, Benjamin. Franklin Writtings. The Library of America, 1987.

Franklin, Benjamin and Paul M. Zall. Franklin on Franklin. University Press of Kentucky, 2000.

Isaacson, Walther. Benjamin Franklin an American Life. Simon & Schuster, 2003.

Lemay, J.A. The life of Benjamin Franklin. University of Pennsylvania Press, 2006.

Talbott, Page. Benjamin Franklin in Search of a Better World. Yale University Press, 2005.

Waldstreicher, David. Runaway America. Hill and Wang, 2004.

Resources for Students (Print)

Adler, David A. A Picture Book of Benjamin Franklin. Holiday House, 1990.

A biography of Franklin geared toward primary children.

Adler, David A. B. Franklin Printer. Holiday House, 2001.

A detailed biography for older students; contains a detailed time line of events in Franklin's life.

Barretta, Gene. Now & Ben: The Modern Inventions of Benjamin Franklin. Henry Holt and Company, 2006.

A picture book that compares modern inventions with those designed by Franklin.

Cousins, Margaret. Ben Franklin of Old Philadelphia. Landmark Books, Random House, 1952.

A biography written for middle graders that is part of an acclaimed series of children's history books.



Dash, Joan. A Dangerous Engine. Farrar, Strauss, 2005.

Franklin's life is vividly recounted in this book designed for grades 7 and up. A collection of period reproductions and primary sources are depicted.

Fleming, Candace. <u>Ben Franklin's Almanac: Being a True Account of the Good Gentleman's Life.</u> Atheneum Books for Young Readers, 2003.

Modeled on Franklin's "Poor Richard's Almanac," this book is a combination of biography, anecdote, cartoon, and etchings. Geared toward middle schoolers, but is a wonderful resource for adults.

Fleming, Candace. The Hatmaker's Sign. Scholastic, 1998.

A story by Benjamin Franklin, retold by Ms. Fleming in picture book form.

Fradin, Dennis Brindell. Who Was Ben Franklin? Grossot and Dunlap, 2002.

An illustrated biography suitable for students in grade 3 and beyond.

Fritz, Jean. What's the Big Idea, Ben Franklin? Putnam and Grosset Group, 1976.

A brief account of Franklin's role in the early history of America. Written for students in intermediate grades.

Giblin, James Cross. The Amazing Life of Benjamin Franklin. Scholastic Press, 2001.

A picture book biography accompanied by masterfully painted illustrations. Length and context of text makes this suitable for older students.

Gutman, Dan. Qwerty Stevens Stuck in Time with Benjamin Franklin. Simon & Schuster, 2002.

Historical fiction about a boy whose time travel machine transports Ben to the 21st Century. Intermediate level.

Murphy, Frank. Ben Franklin and the Magic Squares. Random House, 2001.

A Step Into Reading Book (Step 4), that discusses Ben's sayings, discoveries, and inventions.

Pingry, Patricia A. Meet Benjamin Franklin. Ideals Children's Books, 2001.

A biography in picture book form that presents Franklin simply and with humor.

Schanzen, Rosalyn. How Ben Franklin Stole the Lightning. Harper Collins, 2005.

Focuses on Franklin's role as an inventor; a picture book appropriate for ages 6 and up.

Smith, Lane. John, Paul, George and Ben. Hyperion Books for Children, 2006.

A picture book in which the author imagines these patriots as children. Uses humor to entice readers.

The Ben Franklin Book of Easy and Incredible Experiments. John Wiley & Sons, 1995.

A Franklin Institute Science Museum Book that shows students how to conduct experiments the Ben Franklin way using inexpensive everyday items.

Appleseeds, A Cobblestone Publication. December, 2004.

This magazine is written for grades 3 and up and the entire issue is dedicated to Benjamin Franklin.

Cobblestone Magazine, Vol. 13, No. 7. September, 1992. Benjamin Franklin.

This edition of The History Magazine for Young People is completely dedicated to the life of Benjamin Franklin.





The National Park Service cares for special places saved by the American people so that all may experience our heritage.

As part of the National Park Service, Independence National Historical Park is committed to providing quality educational experiences to teachers, school children, families, and adult learners through the Independence Park Institute.

The educational goals of the Independence Park Institute include:

- developing curriculum-based school programs and educational materials for visiting classes
- conducting professional development workshops for teachers
- creating standards-based pre-visit and post-visit lesson plans that teachers can use to make the student's experience more relevant and meaningful while at the park



Our ultimate goal is to connect all learners, both intellectually and emotionally, to the resources and stories of Independence Hall, the Liberty Bell, Franklin Court, and the many other sites at Independence National Historical Park that center on the ideas and ideals that led to the American Revolution and the founding and growth of the United States.

