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What's the Big Idea?

Four Centuries of Innovation in Boston

An Activity and Discussion Guide

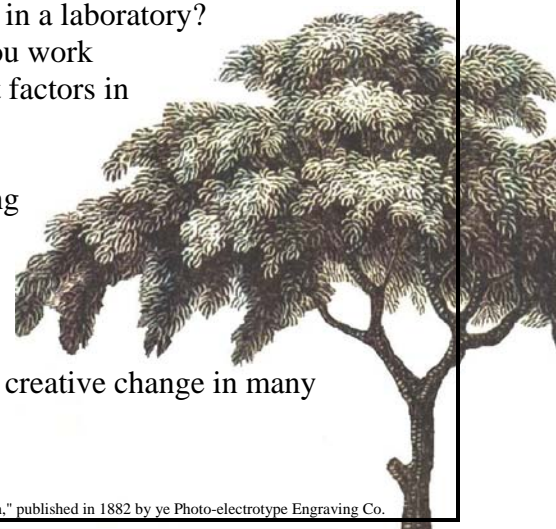
Developed by Charlesbridge with the
Boston History & Innovation Collaborative
and Marilyn Weiss Cruickshank

Ever since Boston, Massachusetts, was established in 1630, the city has been a hub of innovation, leading America and the world in new and exciting directions. Published in partnership with the Boston History & Innovation Collaborative, *What's the Big Idea?* explores what innovation is and how it happens, encourages inquiry, and offers a new perspective that enlivens the study of key events in American history. The book crosses the curriculum, linking easily to all of the disciplines delineated in the Massachusetts Curriculum Frameworks for History/Social Science—science/technology, the arts, business, education, political leadership, journalism, health, and more.

Innovation can mean many things—a new invention, a significant improvement, or even an existing idea used in a new way. Through the book and this Discussion and Activity Guide, we introduce you and your students to innovation in all its many shapes and forms, to understand why Boston has been one of the world centers for innovation over the past four centuries, and to answer the question: What's the Big Idea?

Thinking and Talking About the Book: Ideas for Discussion

- What is innovation? What is invention? Are innovation and invention the same thing? Why or why not?
- Is it difficult to invent something? Why? Do all inventions happen in a laboratory? Are inventions always new things? Discuss what happens when you work hard at something, and how patience and persistence are important factors in the process of innovation.
- What does it mean to take a chance? What is risk? How does failing at something make one successful? Discuss how innovators take risks and how they are rewarded.
- Why has Boston been home to so many innovations? Discuss how the Greater Boston area has been home to wave after wave of creative change in many different areas, including medicine, education, and technology.



"Antique Views of ye Towne of Boston," published in 1882 by ye Photo-electrotype Engraving Co.

- Why was the Puritan settlement in Boston in the 1600s considered an innovation? Is this a different definition of innovation than your students came up with?
- How did Cotton Mather, Zabdiel Bolyston, and Onesimus become innovators?
- Why was Susannah Wheatley considered an innovator?
- How did innovative technology change the way Americans lived in the 1800s? Can students imagine life before these innovations?
- Discuss how women have made important contributions as innovators. Include the following women in your discussion: Ellen Swallow Richards, Fannie Farmer, Phyllis Wheatley, Ruth Wakefield, Elma Lewis, and Julia Child.
- Discuss the unique obstacles women innovators faced. How did women overcome these obstacles? Do obstacles still exist for women?
- What did Ted Williams mean in his quote, “There has always been a saying in baseball that you can’t make a hitter, but I think you can improve a hitter”?
- What innovation or invention from the book do your students find the most fascinating? Discuss which surprised them the most and why.

What’s the Big Idea? Activities

Art

- Design a postcard from Boston highlighting one or more of the innovative achievements from the book.
- Create an Innovation Trivia game based on the stories of invention and discovery your students learned about in the book. Have students design and decorate the trivia cards. Like Flash Cards, the cards can be designed with the name of the innovator on one side and the innovation or invention on the other side. Add images and designs and even laminate the cards for usage.

Social Studies

- Students need the opportunity to know sequence and names and places associated with them. Being able to place events in time, your students will be better able to learn the relationships among events. What came first? What was the cause? What was the outcome? Using *What’s the Big Idea?* as your guide, create an Innovation Timeline for your classroom. Using colorful posterboard or sheets of construction paper stapled or taped together, list all of the key dates from the book with their corresponding innovation. If possible, allow students some time to search on line for images to match the entries.



- Organize a Biography Breakfast for your class. Invite families and friends. Each student can choose an innovator of interest from the book or elsewhere. Have them research this innovator and create a project—a diorama, a model, a game, a survey or quiz, a collage with photographs and drawings, a poster, an experiment, or any other innovative idea they come up with. Display their projects at your breakfast.

Local History

- Explore the topic of innovation in your own community. Innovation is everywhere—even in your city or town. There are innovative people, events, businesses, and industries that make your area unique. Even your students' families have innovative stories to tell. Talk with your students about innovations or inventions your city or town is known for. Are there people who were born in or lived in your town who are innovators? Are there statues or memorials recognizing innovative people or events? Do members of your students' families work for businesses that have made interesting discoveries or inventions? Expand your class discussion into a local history research project, brainstorming with your students about resources to use. In addition to your school media center and local library, be sure to look in local papers for parades, theater, musical performances, and/or art exhibits—anything that might celebrate community or commemorate a historic event or happening.

Math

- As we learned in *What's the Big Idea?*, Fannie Farmer (1857—1915) took a scientific approach to the subject of cooking. Her *Boston Cooking-School Cook Book* was the first cookbook to list precise amounts for every ingredient in a recipe. Get a copy of the Fannie Farmer cookbook and try one of the recipes of your choice with your students. First try the recipe using the specific measurements cited. Then try the same recipe without the precise measurements and discuss the results.

English/Language Arts

- Have students write a poem about the subject of innovation and how it is hard work to create, invent, or improve something. Students can illustrate the poem with images that come to mind.
- Have students write an acrostic poem using the words BOSTON or INNOVATION. In an acrostic poem, we use the letters of the main word to create other words. Here's an example:

Diving
Under
Chicks
quack

- To help your students work on their critical thinking skills, have them each choose an innovator from the book and write ten questions they would have liked to have asked this person. Questions can be general or specific to the innovator and his/her innovation.





- Create a Matching Game for your students. In one column, list a handful of innovators from the book (i.e., John Winthrop, Ben Franklin, Cotton Mather, Onesimus, Zabdiel Boylston, Phillis Wheatley, Frederic Tudor, John Collins Warren, Horace Mann, Elizabeth Peabody, Louisa May Alcott.) In another column, list the innovative accomplishments of each person, mixing them up so that students will have to read through the accomplishments to match them to the correct person. Students should match the name of the innovator in one column with the descriptions of their innovation in the other column.

- Create a True/False worksheet using facts and stories from *What's the Big Idea*. If possible, link the questions by topic, for example, your students might enjoy a True/False worksheet specifically about sports or cooking innovations.

Just For Fun

- Create an Unscramble game. In this game, names of Massachusetts innovators from *What's the Big Idea?* can be scrambled. Students can put the letters back in order and spell out the innovators' correct names.
- Try our Innovation Word Search on page 5 of this guide. Students search for words from *What's the Big Idea?*
- Have students vote for their favorite innovators. Have students choose from all of the innovators they have met from reading *What's the Big Idea?*, as well as any additional innovators you have introduced or whom they have learned about. Have the students complete a voice vote or have them complete ballots that you prepare. Students can help you design a "Choose Your Favorite Innovator" ballot.

Beyond the Book

The Boston History & Innovation Collaborative, a not-for-profit alliance that works to sustain Greater Boston's 400-year-old tradition of innovation, in collaboration with City Stage Company and the Boston Children's Museum, presents *What's the Big Idea?*—an energetic, funny play about the area's tradition of innovation, invention and cutting edge ideas. The thirty-minute participatory play celebrates the many Massachusetts women and men whose ideas changed the world. Visit www.bostonhistorycollaborative.org (click on Educate) for more information about the play and its accompanying Teachers' Guide.



Boston University Photo Services

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What's the Big Idea?

Word Search



Courtesy of Boston Public Library, Print Dept., A. H. Folsom photograph

B C S U B W A Y S A E D I F O W
 L E H A K S T N A R G I M M I G
 O U J X L J F O C O L O N I E S
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 P C I M E D I P E L A B A U G Z
 S L X A H D P R I U U B K O J E

SUBWAY
 SKYSCRAPERS
 INNOVATION
 PROGRESS
 BOSTON
 INVENTION
 PURITANS

COLONIES
 SMALLPOX
 EPIDEMIC
 INNOCULATION
 IDEAS
 IMMIGRANTS
 TECHNOLOGY