

# Equality

## TB or Not TB

### TEACHER INSTRUCTIONS

**SUBJECT:** Science

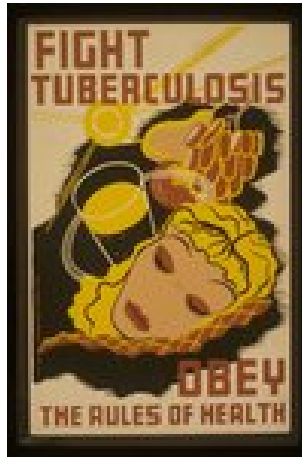
**GRADE LEVEL:** 4-6

**TIME:** Two 30-40 minute lessons (Part 1 & 2)

#### Overview

In this lesson, students evaluate primary sources to deepen understanding of the role of science in managing diseases in the United States.

**Lesson Materials:** Library of Congress resources, slide pack, and discussion questions.



#### PART III

- Engage** students in applying the ideas and analysis by working in groups to create either print or digital posters to educate or inform their community about preventing a disease that is currently an issue. **(Connection and Action)**

#### PART I

#### Teacher Actions:

- Ask** students “*How do scientists keep us healthy?*” “*What is the role of government in keeping us healthy?*” And “*What public interest groups promote issues that related to our health?*” **(Spark Inquiry)**
- Engage** students in a process of inquiry by directing them to become detectives who will analyze sources to answer the question “What is tuberculosis?”(written on board). Distribute the materials from the Lesson Materials.
- Debrief** the answers students have discovered through their analysis.
- Engage** students in a gallery walk to examine posters showing disease prevention in the 1920s and 1930s. Refer to directions from the Lesson Materials for the gallery walk. Students use post-its to write down clarifying questions for the posters.
- Discuss** the questions students have formed regarding the posters by asking them to find the answers. **(Deepen Inquiry)**
- Discuss** how the posters of the past could be useful today. Ask students to brainstorm how. Ask students to share posters that they have seen that have made an impact on them.

#### PART II

#### ASSESSMENTS

- Formative Assessment:** At the conclusion of Part I, consider ending lesson with an inquiry exit slip that asks students to list all the new ideas or topics they learned during this part of the lesson and to predict what the next lesson to continue this learning might be.
- Final Assessment: Poster Project.** Ask students to present their posters and use the rubric to assess their posters. Ask the other groups to give feedback about the poster presentations. Feedback should include strengths of the poster, value of the poster, and recommendations to improve the poster.

## Lesson Materials Library of Congress Resources

The materials below include **Library of Congress resources** to engage students in the inquiry process of using primary source materials. Additional supplemental materials are also included.

- **Disease Detectives primary source set bibliographic records**

- Source 1A: “Tuberculosis!” ad. *The Morning Tulsa Daily World*. (Tulsa, Okla.), 18 Dec. 1919. *Chronicling America: Historic American Newspapers*. Lib. of Congress. <http://chroniclingamerica.loc.gov/lccn/sn85042345/1919-12-18/ed-1/seq-2/>
- Source 2A: Excerpt from “Taft Tells of Proposed Fight Against Tuberculosis”. *New-York Tribune*. (New York [N.Y.]), 29 April 1908. *Chronicling America: Historic American Newspapers*. Lib. of Congress. <http://chroniclingamerica.loc.gov/lccn/sn83030214/1908-04-29/ed-1/seq-5/>
- Source 3A: Excerpt from “The New Discovery of the Cause of the Consumption”. *Evening Bulletin*. (Maysville [Ky.]), 12 May 1882. *Chronicling America: Historic American Newspapers*. Lib. of Congress. <http://chroniclingamerica.loc.gov/lccn/sn86069125/1882-05-12/ed-1/seq-1/>

- **TB gallery walk bibliographic records**

- Source 2A: *Tuberculosis and Childhood*. [New York: National Child Welfare Association: Co-operating with Natl. Assn. for the Study and Prevention of Tuberculosis, between ? and 1923?, 1920] Image. Retrieved from the Library of Congress. <https://www.loc.gov/item/2014647546/>
- Source 2B: *Open Air Schools and Tuberculosis*. [New York: National Child Welfare Association: Co-operating with Natl. Assn. for the Study and Prevention of Tuberculosis, between ? and 1923?, 1920] Image. Retrieved from the Library of Congress. <https://www.loc.gov/item/2014647548/>
- Source 2C: *Fighting Tuberculosis in the School*. [New York: National Child Welfare Association: Co-operating with Natl. Assn. for the Study and Prevention of Tuberculosis, between ? and 1923?, 1920] Image. Retrieved from the Library of Congress. <https://www.loc.gov/item/2014647545/>
- Source 2D: *Posture and Tuberculosis*. [New York: National Child Welfare Association: Co-operating with Natl. Assn. for the Study and Prevention of Tuberculosis, between ? and 1923?, 1920] Image. Retrieved from the Library of Congress. <https://www.loc.gov/item/2014647542/>
- Source 2E: *Good grades - Habits go together City of Chicago Municipal Tuberculosis Sanitarium: Get your test now*. [Chicago, Ill.: WPA Federal Art Project, 1939] Image. Retrieved from the Library of Congress. <https://www.loc.gov/item/98508118/>
- Source 2F: *Tuberculosis Don't kiss me!: Your kiss of affection - the germ of infection / / JD*. [New York: WPA federal art project, district 4, between 1936 and 1941] Image. Retrieved from the Library of Congress. <https://www.loc.gov/item/98516354/>

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## Science – Elementary School

**LESSON TITLE:** TB or Not TB

**ESSENTIAL QUESTION:** How do scientists, the government, and support organizations work together to ensure public health equally for everyone?

**LESSON DURATION:** Taken together, Parts I and II can be done in one class session of about 40 minutes. Part III can be done in another class session.

### LESSON OVERVIEW

In this lesson, students use the example of tuberculosis to learn how scientists, the government, and public-interest organizations work together to ensure that the public has equal access to disease-prevention information and support. In Part I, students discuss the role of science in public health and play the role of “Disease Detectives” to learn more about tuberculosis from primary sources. In Part II, students participate in a gallery walk to analyze historic public health posters about disease prevention to learn about the people and groups responsible for fighting tuberculosis. In Part III, student groups apply what they have learned to create their own posters about disease prevention today.

### LESSON OBJECTIVES

Students will be able to:

- Analyze primary sources to gain understanding of the role of science in disease identification, prevention, and cure.
- Evaluate primary sources to consider how scientists, the government, and support organizations work together to ensure the public has equal access to disease prevention information and support.
- Evaluate ideas and techniques for disseminating information.

### LESSON MATERIALS

- Focus discussion questions (slide)
- 4 copies, 1 for each group: Disease Detectives primary source set
- Poster set for gallery walk
- Instructions for gallery walk (slide)
- Sticky notes (3 per student)
- Instructions for poster design assignment (slide)
- Rubric for poster design assignment

### LESSON PREPARATION

- Prepare digital images or print images.
- Write the source number on the back of each source (1A, 2B, etc.; see bibliographic information on page four).
- Consider using plastic sheet protectors to prolong the durability of the primary sources.

## LESSON IMPLEMENTATION

### **Part I: Spark Inquiry**

#### **A. Introduction**

1. Divide students into four groups, display the focus discussion questions slide and ask them to discuss these in their groups.
  - How do scientists keep us healthy? (*Possible answers: identify diseases, develop cures and preventions, etc.*)
  - What role does the government play in keeping us healthy? (*Possible answers: provide money for research, provide medical care for the poor and the elderly, provide education, etc.*)
  - Can you think of any public interest groups—organizations or associations that promote issues of general public concern—that help keep us healthy? (*Possible answers: American Red Cross, American Heart Association, etc.*)
2. Ask each group to share their responses, noting student contributions on the board or in a digital document. (You may need to contribute to the conversation to make sure points and organizations listed in parentheses above are covered.)

#### **B. Disease Detectives**

1. Pass out a Disease Detectives primary source set to each of the four groups.
2. On the board, write: ***What is tuberculosis?*** Tell students that they will be working as science detectives to answer this question.
3. Tell students to look and read closely to answer the questions asked about each source.
4. While students are working, set up the posters for the gallery walk (see Part II below), then visit groups as students work to answer questions, redirect if necessary, and gauge when their analyses are complete.
5. When students have finished analyzing the source sets in groups, check for student understanding by having different students report back on their answers to the questions that accompanied each source.
6. Make any corrections or clarifications as needed, and have students note these on the sources.

### **Part II: Deepen Inquiry**

#### **A. TB Prevention and Treatment Gallery Walk**

1. Now that students know what tuberculosis is, inform them that they will be doing a gallery walk to examine posters that show how people in the United States were advised to prevent and treat the disease in the 1920s and 1930s.
2. Student instructions for gallery walk: (Note that these are also listed on the slide)
  - Take a few minutes to browse all of the posters.
  - Pay attention to the main focus of the poster: prevention, treatment, or both?

- Pay attention to exactly what the poster is telling people they should do or not do.
- Using the sticky notes provided, write down one question each for three of the posters. This might be a simple clarifying question, or you might note a question about the poster's message or audience. You might also note an even deeper question that the poster makes you wonder about.

3. After students have completed the gallery walk, discuss students' questions about and reactions to each poster, reviewing each source's bibliographic records as you do a check for understanding. (You may want to display the posters digitally or with a document camera so that students can see the images clearly from wherever they are in the room).

### **Part III: Connection and Action**

#### **A. Making posters about disease prevention**

1. Identify and discuss what useful ideas and techniques the posters used that we might also use today to ensure that people have equal access to information about preventing and treating disease. (Consider language, information, and design techniques.)

2. Have students use the ideas and techniques employed in the primary sources, as well as their own knowledge about preventing the spread of disease (either by viruses, bacteria, fungi, or parasites), to work in groups to create print or digital posters to educate or inform their school community about preventing and/or treating one disease.

3. Have each group present its poster to the class. Presentations should be between one and two minutes long. Ask the other groups to give positive feedback by asking them to:

- Comment on the strengths of the group's poster;
- Comment on the value of the poster as something to educate the community about preventing disease; and
- Make recommendations for improvement of the poster.

3. See instructions on slide provided and refer to rubric for grading.

### **LESSON REFLECTION**

Wrap up the lesson by returning to a class discussion of the Essential Question: How do scientists, the government, and support organizations work together to ensure public health equally for everyone?

### **LESSON PACK RESOURCES**

- Disease Detectives primary source set bibliographic records
  - Source 1A: "Tuberculosis!" ad. *The Morning Tulsa Daily World*. (Tulsa, Okla.), 18 Dec. 1919. *Chronicling America: Historic American Newspapers*. Lib. of Congress. <http://chroniclingamerica.loc.gov/lccn/sn85042345/1919-12-18/ed-1/seq-2/>
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- Source 2A: Excerpt from “Taft Tells of Proposed Fight Against Tuberculosis”. *New-York Tribune*. (New York [N.Y.]), 29 April 1908. *Chronicling America: Historic American Newspapers*. Lib. of Congress. <http://chroniclingamerica.loc.gov/lccn/sn83030214/1908-04-29/ed-1/seq-5/>
- Source 3A: Excerpt from “The New Discovery of the Cause of the Consumption”. *Evening Bulletin*. (Maysville [Ky.]), 12 May 1882. *Chronicling America: Historic American Newspapers*. Lib. of Congress. <http://chroniclingamerica.loc.gov/lccn/sn86069125/1882-05-12/ed-1/seq-1/>
- TB gallery walk bibliographic records
  - Source 2A: *Tuberculosis and Childhood*. [New York: National Child Welfare Association: Co-operating with Natl. Assn. for the Study and Prevention of Tuberculosis, between ? and 1923?, 1920] Image. Retrieved from the Library of Congress. <https://www.loc.gov/item/2014647546/>
  - Source 2B: *Open Air Schools and Tuberculosis*. [New York: National Child Welfare Association: Co-operating with Natl. Assn. for the Study and Prevention of Tuberculosis, between ? and 1923?, 1920] Image. Retrieved from the Library of Congress. <https://www.loc.gov/item/2014647548/>
  - Source 2C: *Fighting Tuberculosis in the School*. [New York: National Child Welfare Association: Co-operating with Natl. Assn. for the Study and Prevention of Tuberculosis, between ? and 1923?, 1920] Image. Retrieved from the Library of Congress. <https://www.loc.gov/item/2014647545/>
  - Source 2D: *Posture and Tuberculosis*. [New York: National Child Welfare Association: Co-operating with Natl. Assn. for the Study and Prevention of Tuberculosis, between ? and 1923?, 1920] Image. Retrieved from the Library of Congress. <https://www.loc.gov/item/2014647542/>
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## OPTIONAL ADDITIONAL SOURCES

- Extra posters if you would like to vary what you provide for the gallery walk:
  - <https://www.loc.gov/item/98510126/>
  - <https://www.loc.gov/item/98510127/>
  - <https://www.loc.gov/item/98508162/>
  - <https://www.loc.gov/item/98508942/>
  - <https://www.loc.gov/item/2014647544/>
  - <https://www.loc.gov/item/2014647541/>
  - <https://www.loc.gov/item/2014647547/>
  - <https://www.loc.gov/item/2014647543/>
  - <https://www.loc.gov/item/98513584/>
  - <https://www.loc.gov/item/98516181/>

## STANDARDS ALIGNMENT

### National Science Education Standards

- Science in Personal & Social Perspectives: Content Standard F
  - Personal health
  - Risks and benefits
  - Science and technology in society
- History and Nature of Science: Content Standard G
  - History of science

### Next Generation Science Standards

- **Understandings about the Nature of Science**
  - Science investigations use a variety of methods, tools, and techniques.
  - Science explanations can change based on new evidence.
  - Science theories are based on a body of evidence and many tests.
  - Science is both a body of knowledge and processes that add new knowledge.
  - Science affects everyday life.

### Common Core State Standards

CCSS.ELA-LITERACY.RI.5.1

CCSS.ELA-LITERACY.RI.5.3

CCSS.ELA-LITERACY.RI.5.7

CCSS.ELA-LITERACY.RI.5.10

CCSS.ELA-LITERACY.W.5.2

CCSS.ELA-LITERACY.W.5.4

CCSS.ELA-LITERACY.W.5.6 (if posters are created digitally)

CCSS.ELA-LITERACY.W.5.8

### C3 Framework for Social Studies

D1.2.3-5

D2.Civ.6.3-5

D2.His.2.3-5

D2.His.10.3-5

D2.His.12.3-5

D3.3.3-5

D4.2.3-5

D4.3.3-5

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