

Hand Washing Lesson Plans: Grades 6-12

It Might Come in Handy

Learning About Hand Washing and Communicable Disease

Author(s)

[Annisia Hambouz, The New York Times Learning Network](#)

[Bridget Anderson, The Bank Street College of Education in New York City](#)

Grades: 6-8, 9-12

Subjects: Health, Science

[Interdisciplinary Connections](#)

Overview of Lesson Plan: In this lesson, students will learn about the latest study on routine hand washing practices. They will then research some of the possible communicable diseases that can be transmitted by having lax hygiene.

Review the [Academic Content Standards](#) related to this lesson.

Suggested Time Allowance: 1 hour

Objectives:

Students will:

1. Examine their own hand washing habits.
2. Consider the prevalence of lax hand washing hygiene among American adults by reading and discussing the article, “Many Don’t Wash Hands After Using Bathroom”
3. Research and report on various types of communicable disease that can be spread through the hands.
4. Create posters and pamphlets with information on communicable infections and diseases that can result from poor hand washing hygiene.

Resources / Materials:

-student journals

-pens/pencils

-paper

-classroom board

-copies of “Many Don’t Wash Hands After Using Bathroom” found online at

http://www.nytimes.com/learning/teachers/featured_articles/20050927tuesday.html(one per student)

-resources about contaminants and communicable disease, including science textbooks, reference books, and computers with Internet access

-poster board (one per group)

-glue sticks, scissors, markers (one set per group)

Background:

Visit the Foodborne Illness Information Center

(<http://peaches.nal.usda.gov/foodborne/fbindex/Handwashing.asp>), which contains teaching materials on hand washing and hygiene, as well as links to hand washing programs and campaigns throughout the United States.

Activities / Procedures:

1. WARM-UP/DO-NOW: After students have been seated, conduct an informal poll using the following questions and record the number of responses to each on the board:

“After which of the following activities do you typically wash your hands:

- petting a cat or dog
- using public transportation
- handling money
- preparing food
- blowing your nose
- sneezing
- shaking hands with someone?”

Compare the number of responses under each category. Based on these responses, discuss why students consider some of these activities to be more or less hygienic than the others. Under what other circumstances should people ALWAYS wash their hands? Why? Why is hand washing considered an important aspect of good hygiene?

2. As a class, read and discuss the article “Many Don’t Wash Hands After Using Bathroom”

(http://www.nytimes.com/learning/teachers/featured_articles/20050927tuesday.html), focusing on the following questions:

- a. According to the article, in a recent poll, how many people were interviewed about their hand washing habits?
- b. Who conducted the survey?
- c. What were the results of the survey?
- d. How did researchers test the responses given in the survey?
- e. How did the survey results compare with the observations?
- f. Who is Michael T. Osterholm?
- g. Where were the observations for the study made?
- h. Of these locations, which had the least hand washers?
- i. Which area had the most hand washers?
- j. What role, if any, did gender play in these observations?
- k. What correlation could be made between level of income and hand washing hygiene?
- l. According to the article, what difference, if any, does a person’s level of education make when it comes to handling diapers and hand washing?

3. Ask students to imagine that they have been hired as public educators by the National Institutes of Health. In order to help convey the importance of hand washing to the communities with which they will be working, "educators" will examine some of the communicable diseases that can be transmitted through poor hand washing hygiene. Students will work in small groups to create informative posters illustrating various bacterial and viral infections. Before beginning the activity, you may wish to review terms, such as: airborne, antibodies, antigens, bacteria, contagious, epidemic, epidemiology, foodborne, infectious, quarantine, virus, and waterborne.

Divide the class into small groups and assign each group one of the following contaminants, including but not limited to:

- varicella zoster (“chickenpox”)
- e-coli
- coxsackie virus (“hand, foot, and mouth disease”)
- giardia (“beaver fever”)
- influenza (“flu”)
- meningococcal bacteria (“meningitis”)
- mononucleosis (“mono”)
- streptococcus (“strep throat”)
- salmonella

Each group is responsible for researching and answering the following questions for their posters (written on the board for easier student access):

- What kind of contaminant is this?
- What does this contaminant look like under a microscope? DRAW a picture of this organism on your poster.
- Where is this contaminant found (i.e., is it airborne or waterborne?)
- In what environments is this contaminant commonly found (e.g., schools, restaurants, campsites, etc.?)
- How is this contaminant spread?
- What are the consequences if ingested?
- What are the physical symptoms of the resulting illness?
- What is the mode of treatment once the contaminant has spread?
- What can be done to prevent the spread of this contaminant?
- Who is at risk to be affected by this contaminant?

Using all available classroom resources, groups research their assigned contaminants and create their posters. Some suggested online resources include the New York State Fact Sheet on Communicable Disease

(http://www.health.state.ny.us/nysdoh/communicable_diseases/en/pdf/factshts.pdf), the Center for Disease Control’s site on hand washing and disease, (<http://www.cdc.gov/ncidod/op/handwashing.html>), and the American Society for Microbiology’s Clean Hands Campaign (<http://www.washup.org/index.html>).

4. WRAP-UP/HOMEWORK: After posters are complete, groups present them to the class or as part of a greater health and wellness project.

For homework, each student creates a one-page informative pamphlet to promote hand washing hygiene among younger students. They should include some of the information gathered in their in-class group research, and use creative teaching methods, such as rhymes or illustrations, to educate their audience.

Further Questions for Discussion:

- Do you think you will change your hand washing habits after reading this article and researching these communicable diseases? If so, how? If not, why not?
- Why do you think so many American adults do not wash their hands as frequently as they should?

Evaluation / Assessment:

Students will be evaluated based on class participation, group research, and presentation of information.

Vocabulary:

conscientious, microbiologists, urinals, hygienic, hygiene

Extension Activities:

1. Choose one of the hand washing observation sites mentioned in the article, and write a profile on it. When was it built? What events are conducted there? How many people visit on an average basis?
2. Conduct an experiment to find out which of the following methods of hand washing is most effective: plain water, soap and water, antibacterial soap and water, or hand sanitizer. Place sliced beets in sanitized petri dishes and grow cultures on the beets as taken from the swabbed palms of each type of hand washer. Be sure to include a “control” dish with no culture as well. Observe your results over a four-day period.
3. Conduct your own observation of hand washing habits among people your own age. Formulate a standard method of observation with your classmates, and then choose several different locations to observe, such as school, a local community center, etc. Document your findings.

Interdisciplinary Connections:

American History- Choose a communicable disease that once resulted in an epidemic but is no longer in the American public consciousness, such as typhoid or polio. When did this disease reach epidemic proportions, and what impact did it have on the population? Make a creative presentation offering historical context as well as pertinent scientific information. For inspiration, visit the PBS Web site on “The Most Dangerous Woman in America,” a NOVA special on “Typhoid Mary” (<http://www.pbs.org/wgbh/nova/typhoid/>).

Economics- The article mentions that “education and income level have something to do with hand washing practices.” Look up the census statistics on education and income levels in the United States and create a chart to represent populations in both categories.

Media Studies- Write the script for a public service announcement commercial on the importance of hand washing. Depending on your school’s resources, you may wish to film your announcement and screen it on a television monitor at lunch hour.

Teaching with The Times- Read The New York Times every day and track its coverage of communicable diseases, from stories on “flu season” to other epidemics around the world. Share these stories with your biology or health sciences class. To order The New York Times for your classroom, [click here](#).

References:

Academic Content Standards:

MREL This lesson plan may be used to address the academic standards listed below. These standards are drawn from [Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education: 3rd and 4th Editions](#) and have been provided courtesy of the [Mid-continent Research for Education and Learning](#) in Aurora, Colorado.

Grades 6-8

Health Standard 2 - Knows environmental and external factors that affect individual and community health. Benchmark: Understands how various messages from the media, technology, and other sources impact health practices

Health Standard 8 - Knows essential concepts about the prevention and control of disease. Benchmark: Understands how lifestyle, pathogens, family history, and other risk factors are related to the cause or prevention of disease and other health problems

Grades 9-12

Health Standard 2 - Knows environmental and external factors that affect individual and community health. Benchmarks: Knows how the health of individuals can be influenced by the community; Understands how the environment influences the health of the community; Understands how the prevention and control of health problems are influenced by research and medical advances; Knows how public health policies and government regulations impact health-related issues

Health Standard 8 - Knows essential concepts about the prevention and control of disease. Benchmarks: Understands how the immune system functions to prevent or combat disease; Understands the social, economic, and political effects of disease on individuals, families, and communities