



Removing the Evidence



Prep **15** minutes



Activity **1** hour



Grades **K-2**

OBJECTIVE:

To conduct an experiment to determine the effects of different methods of handwashing.

MATERIALS:

- *Removing the Evidence* Handout
- Cinnamon
- Soap
- Vegetable oil
- Paper towels
- Poster board and drawing supplies

EDUCATION STANDARDS:

Health: 1.2.3 Describe ways to prevent communicable diseases.

7.2.1 Demonstrate healthy practices and behaviors to maintain or improve personal health.

Science: A.1.b Plan and conduct a simple investigation.

INSTRUCTIONS

1. Have students read the *Removing the Evidence* handout. Discuss why Harry was concerned about the way Johnny washed his hands and get students' opinions on the best way to wash your hands.
2. Explain that students will be doing an experiment to see if how you wash your hands makes a difference. Explain the experiment to students and have them predict which method of handwashing will be the most effective.
3. Ask students what one thing they will be changing in each part of the experiment (the type of cleaner used to wash hands). Ask them to name some things that they will need to be careful to do the same each time to make sure the variable they are testing is what changes the results (wash for the same amount of time, scrub as hard each time).
4. Organize students into pairs and have one student from each pair coat their hands in vegetable oil and then in cinnamon. Make sure all students have about the same amount of cinnamon on their hands.
5. Assign each student one of the following methods of handwashing: using a dry cloth or paper towel, using just cold water, using cold water and soap, using just warm water, and using soap and warm water.
6. Have students wash their hands with their assigned method for the length of time it takes to sing "Happy Birthday" twice.
7. Have each pair examine the washer's hands to determine how much cinnamon is left on them. They should record this information by coloring in the appropriate amount on the hand on their handouts.
8. Repeat the experiment with the pairs switching roles.
9. Create a bar graph of students' results on the board, based on the amount of cinnamon left on their hand. Have students determine the best method for washing hands. If the results aren't as expected, discuss what could have affected them.
10. Brainstorm with students when they should wash their hands. (Ex. Before and after eating, after using the bathroom, after blowing their nose or coughing, after touching pets or animals, or after playing outside.)
11. Have students work in small groups to create posters depicting instances that require handwashing. Post them throughout the classroom as a reminder.



Interactive Whiteboard Extension

1. Have students fill in blackline images of hands on the whiteboard to show the results of their experiment or take photographs of students' hands at the end of the experiment and place those on the whiteboard.
2. Have students label each hand with the method of handwashing and sort the images from least to most clean.



Removing the Evidence

"No!" called Harry. "Stop!"

Harry was behind Johnny at the sink in the bathroom. He saw Johnny wash his hands. Johnny didn't use soap. He only washed for a few seconds. Harry didn't want Johnny to touch any toys. He might spread germs.

"My hands are clean," Johnny said.

But Harry and Ella knew they weren't. They all agreed to investigate the best way to wash hands.



Help Ella, Johnny, and Harry investigate how to remove the evidence. Color in the hand to show how much cinnamon was left on your hand after you washed it.

How did you wash your hand?



Case Report: Every good investigator writes case reports. Case reports tell what you found. Write the best way to wash your hands.
