

HAND WASHING LAB

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Purpose: To demonstrate the importance of washing hands and using soap

Background: Our hands do so many things and they touch so many surfaces and substances. They are also covered with many small crevices in which microbes can hide. When we handle food or put our hands in our mouth, we enable many microbes to take a trip into our inner body unless we wash our hands and other objects properly before they are used.

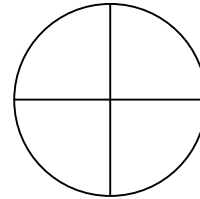
Teacher Prep:

Prepare petri plates containing TSA agar for the class – each group (individual) should have 2 dishes.

Provide soap at each sink

Student Procedure:

1. Divide two nutrient agar plates into four quadrants
 - a. Label the quadrants of each plate 1 through 4
 - b. Label one plate “water,” the other “soap”
2. Chose one student to use the “water” dish. Go to the restroom and touch all the things you would normally touch, such as doors and faucets, but do not wash your hands.
 - a. Touch section 1 with your fingers – do not push down and puncture the agar
 - b. Wash your hands with only water
 - c. Shake off excess water and while still wet, touch section 2
3. Do not dry your fingers with a towel.
 - a. Wash again with only water, touch section 3
4. Wash a final time and touch section 4
5. Another student should use the plate labeled “soap.” Repeat the procedures except use soap and water
6. Incubate the plates inverted at 35C or room temperature until the next class.
7. Record how many colonies appear on each quadrant. Also describe the size and color of each colony.



Thinking:

1. Why is it not necessary and, in fact, undesirable to remove all bacteria from the skin?
2. The microorganisms that are normally present on the human skin are not pathogens. Why does a surgeon scrub for 2 to 5 minutes with an antiseptic soap before operation?
3. Why might it be bad to use bar soap instead of a pump?
4. List some diseases (3-4) that can be transmitted on hands. Look in your textbook for help.
5. Make some signs for the school restroom that will get students to wash their hands.