

Handwashing

How might we evaluate the effectiveness of handwashing?

Germs are tough! Viruses can be transferred from dry smooth surfaces for up to 20 minutes after being contaminated. *E. coli*, salmonella & other bacteria can live up to two hours on surfaces like doorknobs, keyboards and tables. Bacterial populations double every 20 minutes. Five bacteria in a sandwich at noon will total over ten million by 7 pm and after three days, with no bacteria die-off, there would be enough to cover the earth. Hot water will not kill bacteria—only temperatures over 140°F can kill them.

Handwashing is the single most effective way to prevent the spread of contagious diseases when done correctly. 80% of all infectious diseases are transmitted by touch. 36% of foodborne illness outbreaks can be traced to poor personal hygiene & most outbreaks are spread by contact.

Damp hands spread **1000X** more bacteria than dry hands. A person's hand can carry ten thousand to ten million bacteria. Millions of germs acclimate under the bracelets, watches & rings that a person might be wearing.

Let's review the steps to effective handwashing:

1. Use warm water to wet your hands.
2. Add soap.
3. Rub hands together making a soapy lather. Wash the front and the back as well as between your fingers and under your nails for 20 SECONDS; sing Happy Birthday (2 times) or your favorite song.
4. Rinse.
5. Use a clean paper towel to dry your hands.
6. Use the towel to turn the water off.

Activity option 1 – glitter lotion

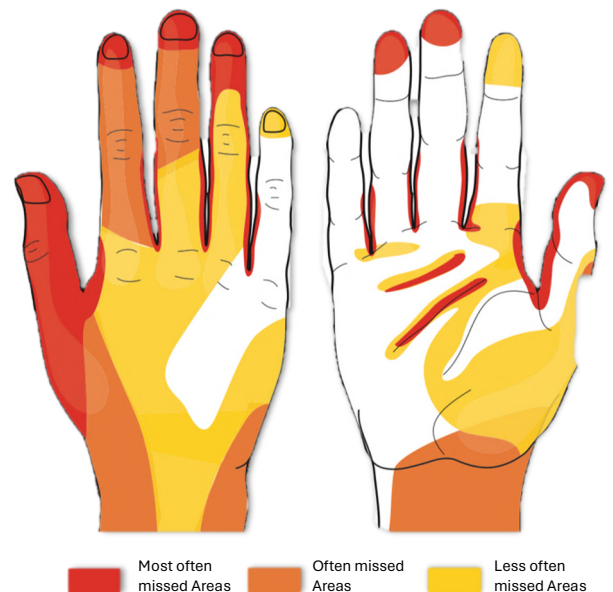
How well do you think you wash your hands? Use glitter lotion to simulate germs.

Materials

glitter lotion
soap

Procedure

1. Take a quarter size amount of glitter lotion.
2. Apply to hands and make sure it covers the entire hand, front & back.
3. Wash hands for 20 seconds using the procedure above; don't start singing until you are scrubbing with soap.
4. Dry hands well.
5. Is there glitter still on your hands? Where is it located?



Activity option 2 - GloGerm

How well do you think you wash your hands? Use GloGerm to simulate germs.

Materials

GloGerm

UV flashlight

Procedure

1. Take a pea size amount of GloGerm.
2. Apply to hands and make sure it covers the entire hand, front & back.
3. Use a UV flashlight to look at your hands before you wash: Glowing = Germs
4. Wash hands for 20 seconds using the procedure above; don't start singing until you are scrubbing with soap.
5. Dry hands well.
6. Look again with a UV flashlight. Are your hands still glowing?

Activity option 3 – Expansion; experiment

1. Each group wash hands differently: Ask the group what is most important: time, soap or drying? (There may be different variables to test as well)
 - Group 1: wash hands for **10** seconds with soap; dry with towel.
 - Group 2: wash hands for 20 seconds **without** soap; dry with towel.
 - Group 3: wash hands for 20 seconds with soap (**control**); dry with towel.
 - Group 4: wash hands for 20 seconds with soap, but **air dry**.
2. Take pictures or observe & record the differences