Educator Resource

Interactive Experiment: Understanding Germ Transfer

Showing students how easily germs can move from hands to common objects – and back – is a great way to illustrate how washing your hands can help prevent the spread of germs. Seeing how quickly germs can spread around the classroom helps reinforce good hand hygiene and can encourage students to pay more attention to when and how well they're washing and sanitizing their hands.

Materials

- Glo Germ lotion
- Glo Germ powder
- Spray bottle
- Water
- Black light
- Black poster board
- Olive oil

Getting Ready

- **Before performing the aerosol experiment**, mix two tablespoons of Glo Germ powder* thoroughly with two cups of olive oil. Let mixture settle overnight and decant as much of the oil out as possible. Get the remaining oil out by putting the mixture into cloth and wring out any additional oil. Mix the oil-coated powder into a pint of water. Shake well and transfer into a spray bottle.
- **Complete Worksheet 1** to discuss the concept of germs and germ transfer.
- **Worksheet 2** should also be completed if the *Aerosol* experiment is being performed (Etiquette and how to cover a cough or sneeze).

Glo Germ Experiment

Procedure

1. Dispense a nickel-size amount of Glo Germ lotion on each student's hands.
2. Instruct the students to rub the lotion on the palms of their hands only — from wrist to fingertips — and before dry, touch items in the room. These items can be what they believe to be "high-traffic" areas in the classroom, the first 5 objects they see, etc.
3. Have students return to their seats once they've finished touching objects and their lotion is dry.
4. Once all students are back in their seats, turn off the lights and remove any additional light sources within the room.
5. Turn on the black light and move around the room to see what areas in the classroom were touched using the Glo Germ kit.

Discussion Questions

1. What areas did you think would be most touched? Did this turn out to be true?
2. Were you surprised by any areas that had been touched with Glo Germ?
3. How can germs be transferred from surfaces?
4. Why is good hand hygiene important to stop the spread of germs?
5. Why is it important to regularly clean and disinfect high-touch surfaces?

Aerosol Experiment

Procedure

1. A student representative or the classroom teacher can take the prepared spray bottle and solution.
2. Dispense one spray of the solution onto a poster board that is posted approximately 3 feet away.
3. Repeat procedure with a poster board that is 6 feet away.
4. Turn off the lights and eliminate any additional light sources within the room.
5. Use the blacklight to visualize the aerosolized particles on the poster board.

Discussion Questions

1. Which surface had more visible droplets (the one closer to the spray source or further away)?
2. Was the spray pattern bigger or smaller than you expected?
3. If the spray was a sneeze, how would physical distancing reduce the risk of germ transfer?
4. If the spray was a sneeze, what could have interrupted the path in which the sneeze traveled?

* While Glo Germ can help demonstrate how germs spread, it is not representative of actual germs and should not be used to show germs on hands before and after washing. Glo Germ does not have the same composition as these microorganisms, therefore will not accurately demonstrate the removal of germs from hands after washing. Students will likely need to wash their hands a couple times to fully remove the Glo Germ from their hands.