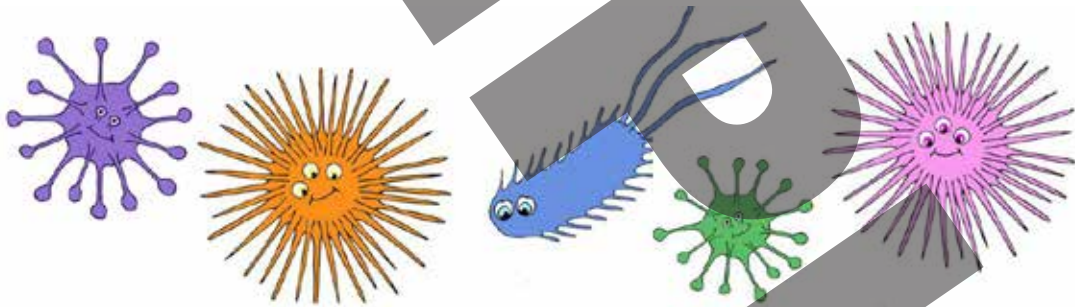


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Surprising Science for Kids:



GERMS & YOU!

KIT-530

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Welcome to Surprising Science for Kids: GERMS & YOU!

Your *Surprising Science for Kids: GERMS & YOU!* kit includes everything you need to teach young children the importance of proper hand washing in order to prevent the spread of germs, viruses, and bacteria.

We believe the best way to learn about science is to have fun! The activities in this guide will ignite young children's curiosity and make them eager to explore and learn more on their own.



Included in this kit:

- Glo Germ Lotion (2 oz)
- 6" Portable Ultraviolet (UV) Light
- 2 Shrinking Plastic Germs with 2 Loops
- 3 Balloons
- Safety Glasses
- 4 AA Batteries
- Pipet

You will also need:

- Water
- Blank paper, pencils, soap and water for the *Glo Germ Lotion* Activity (pages 4-5)
- A thumbtack, pin, or needle
- Markers or colored pencils for the *Shrinking Germs* Activity (pages 7-8)
- A hole punch

All about Germs

Using a spray bottle filled with clean water, squirt a bit of water on each of your students' hands.

Explain:

How do germs get into our bodies? Through our mouths, our eyes, and noses... and through cuts in our skin.

Imagine that the water on your hands are germs that come out of your mouth when you cough or sneeze.

Even when we cover our mouths to cough or sneeze, we can still spread germs. If you sneeze with your hand over your mouth, where do you think the germs go? (They go onto your hand.)

Now have the children touch objects in the room such as a table, doorknob, or chair.

Ask:

What happened to the thing you touched? (It became damp.)

Explain:

This is what happens when we sneeze into our hands and then touch something. (The germs on our hands are transferred to the object.)

Discuss:

What do you think could happen if one of your friends touches that object while it's still damp? (They might pick up the germs and spread them elsewhere. They might get sick).

Explain:

If you cover your mouth when you sneeze or cough, you should wash your hands right away so the germs will be washed off and there will be less chance for other people to get sick.

More importantly, you should sneeze or cough into your elbow, NOT your hands.

Other Notes:

- The hand washing message needs to be reinforced several times a day, especially before lunch and after using the restroom.
- Teach by example. Sneeze into your elbow, not your hands. Keep facial tissues nearby.
- Copy and distribute the activities on pages 7-11 for students to complete. Each activity includes a place for students to write their names, pledging to wash their hands.
- You may want to post one or all of the completed activity sheets on a bulletin board to remind students of their pledge. If space is limited, post the "Hand Washing Pledge" artwork at the bottom of page 2 somewhere in your classroom.

Glo Germ Demo

Glo Germ is a non-toxic, odorless lotion which glows brightly when exposed to ultraviolet light. It safely and dramatically simulates the spread of thousands of invisible “germs” in a way your students will never forget! This activity will demonstrate proper hand washing and more.

Directions:

Provide each student with a blank piece of paper and a pencil. Ask the students to trace around one of their hands with the pencil and then set both aside.

Place a small blob of Glo Germ lotion onto the palm of one hand of each student. The students should rub the lotion onto both hands, being sure to cover the areas between their fingers and around their fingernails. Any excess lotion should be wiped off with a paper towel.

Explain that the lotion contains tiny particles that fluoresce, or glow, under ultraviolet light. Tell students:

Today we’re pretending that these tiny particles in the lotion are bacteria or “germs.”

Bacteria are single-celled organisms too small to be seen by the naked eye. Bacteria are all around us. Most of them are harmless. In fact, we need some types of bacteria to stay healthy. But other bacteria cause disease. That’s what we usually call “germs.”

When we wash our hands properly, we remove those germs from our skin so we cannot pass them along to other people, or transfer them to our food, spoons, toothbrushes etc.

Allow the students to view their “germ”-covered hands under the ultraviolet lamp. They should notice many glowing areas on their skin, nails and around their cuticles.

Instruct students to wash their hands using soap and water the way they usually do, then recheck their hands under the UV light. The effort it takes to completely wash the lotion off one’s hands is similar to the effort it takes to remove most bacteria. Did the students remove all of the “germs”?

A note about lighting:

It’s important to test the darkness of your room to make sure that your students will be able to see the Glo Germ lotion fluoresce under the ultraviolet light.

If you can’t get your room dark enough, you can build a viewing chamber using a cardboard box or a blanket draped over a chair.

Cover Your Sneeze!

Take a deep breath. Now place your hand over your mouth and exhale. Do you feel that moisture on your hand? That came from your lungs.

A sneeze is one of the best ways to spread germs! Not that you really want to do that... It's been found that the average sneeze or cough can send tens of thousands of contagious germs into the air at speeds of up to 100 miles per hour! That's fast enough to give you a speeding ticket on the highway! The larger particles from your sneeze can travel six to eight feet away from you, and the smaller droplets can travel as much as 20 feet!

Because the droplets are light, depending upon the ventilation in the area, they can spread through an entire room in a matter of a few short seconds. Also, because many germs can live on surfaces for several hours or longer, it's super important to cover your sneeze or cough. Aaaaaand, the best way to cover your sneeze or cough is to aim for the inside of your elbow rather than your hand.



Materials:

- 3 Balloons
- Pipet
- Safety glasses
- Pin, needle, or thumbtack (not included)
- Water (not included)
- An adult (not included)

Directions:

In this activity, you're going to simulate the power of a sneeze. Using the pipet, add approximately $\frac{1}{2}$ teaspoon of water to one of the balloons. Fully inflate the balloon and tie it off. Be sure to cover your eyes with your safety glasses! Stand approximately two feet away from the balloon, and ask your adult helper to use the pin to pop the balloon. You should feel the droplets hit your face and body.

What happened? The air inside the balloon is rushing out since it's no longer held in by the walls of the balloon, and some of that water is traveling with it.

Repeat this experiment two more times with the remaining balloons, but each time, take one step away from the balloon.

What did you notice about the amount of water sprayed on you compared to your distance from the simulated sneeze?

Answer Key

Answers to Word Scramble:

1. **M G S E R** These are what make you sick.
2. **S U U R I** This is one type of germ.
3. **D S N H A** What you should always wash.
4. **T R W A E** Wash your hands with
5. **S A P O** This helps to eliminate germs.
6. **S E A I D S E** What germs can cause.
7. **C I B A E A T R** This is another type of germ.
8. **T L E H A H Y** Washing your hands can keep you

GERMS
VIRUS
HANDS
WATER
SOAP
DISEASE
BACTERIA
HEALTHY

Answers to Word Search:

