



# High Touch High Tech®

Science Experiences That Come To You

## Germ Game

### Ingredients & Supplies:

- hand lotion
- glitter

### Instructions:

You can do an experiment at home to find out how germs can pass from one person to another. For this experiment, you need a bottle of hand lotion and some glitter. Ask some friends to play the Germ Game with you. This experiment works even better with some friends!

Squirt a small amount of lotion into your hand. Rub in the lotion onto both of your hands. Now, have your friend sprinkle a small amount of glitter onto your hand. Now, find a friend (or even an adult) and shake their hand. What happens? Your glitter passes to your friend! This glittery “germ” was easily passed to someone else!

Walk around the room and touch a table, a chair, a cup, or anything else lying around. What do you notice? The glitter “germ” gets on everything you touch. Observe how easily you can spread germs just by touching things.

Now, imagine if these are real bacteria. That’s yucky! So, what can you do to get rid of these germs? You can wash your hands.

Go to your sink and follow these directions to correctly wash your hands. First, wet your hands with water. Then put soap in your hands. Next, scrub your hands under the water as you count to 20. Rinse your hands with water. Dry them off with a clean towel, and throw it away. Look at your hands. Now, they are glitter “germ”-free!

### The Science Behind It:

What is so tiny that you can’t see it, but it can make your arms ache, your head hurt, or cause a sore throat? GERMS! Have you ever gotten up one morning and your whole body hurts? Well, you can blame those pesky tiny organisms called *bacteria* that you can only see with a microscope. Bacteria are single-celled microorganisms. There are many different types of bacteria in nature. They are in the air you breathe, the food you eat, and everything you touch.

But, don’t worry; most types of bacteria are not dangerous. There are actually many kinds of bacteria living inside our bodies that keep us healthy. The good



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kinds of bacteria fight off the bad germs. Your skin helps block out bad germs. Washing your hands also keeps dangerous bacteria from getting inside your body. Your nose also protects you from bad bacteria. The tiny hairs in your nose trap germs before they creep inside! Also, your mouth is always wet from saliva so germs get stuck and cannot go any further.

Unfortunately, dangerous bacteria do slip into your body, at times. For example, if someone has a cold and sneezes on you, germs fly out of his or her mouth and land on you. If you drink from someone else's glass or straw and they have a cold, their germs can go into your stomach. Bad germs can be pretty tricky sometimes! Therefore, it is important to wash your hands, clean your scraped knee, and be cautious of others who might be sick.

## Real World Relevance – Immune System - Leukocytes

The *immune system* is an essential system in our body that helps fight off infections caused by bad germs. The immune system is a complex network made up of tissues, organs, and cells that work together to defend your body from unhealthy organisms, such as bacteria and viruses.

White blood cells, called *leukocytes*, are part of the immune system. Leukocytes kill bacteria and remove damaged cells. There are two types of germ-fighting leukocytes. The *phagocytes* actually absorb and “chew up” the dangerous germs. *Lymphocytes* are tiny cells that remember the invading germs and can seek them out before destroying them! Now that's a smart, protective immune system!

It is very important to keep your immune system running. By eating healthy foods, washing your hands, drinking lots of water, and playing everyday, you can help your immune system function!

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