

Glo Germ Powder Experiment Kit



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Kit Contents

The following materials are included in this kit:

- *Glo Germ™ Powder simulated germs, 4 oz.*
- *Mini UV blacklight*

Introduction

Germs are everywhere, all around us. There are different kinds of harmful germs: bacteria, viruses, fungi, and protozoa. Bacteria, microscopic one-celled creatures, get nutrients from their environments in order to survive. Living inside our body, harmful bacteria can cause infections. A virus lives inside a host like a plant, animal, or person, but it can also stay on objects like doorknobs or toilet seats for a short time. Viruses spread from person to person, making you sick. Fungi are also microscopic, but they are a multi-celled organism. Fungi love to grow in damp, warm places, stealing their nutrition from living things like plants or people. Protozoa are one-celled organisms that can spread disease through water and can cause intestinal diseases. If you get the flu, that is caused by a virus. Colds and sore throats can be caused by bacteria or a virus. It is important to keep germs at a low level by using proper safety methods in the kitchen and making sure to wash raw fruits and vegetables well before eating them!

Glo Germ™ powder isn't really a bacteria or virus; it simulates real germ behavior, showing you how important it is to wash your hands properly. The powder is non-toxic, but you should still wash your hands after using it.

To demonstrate how important washing fruits and vegetables is, use the Glo Germ™ powder and the blacklight to see the effect washing has on harmful germs. (You'll need to turn off all the lights to see the powder glow under the blacklight.) This powder spreads easily, showing cross-contamination of harmful bacteria.

Experiments

Head of Lettuce – Experiment #1: To show the way bacteria spreads by cross-contamination, use an unwashed head of lettuce and the bottle of Glo Germ™ powder to thoroughly coat the lettuce in “germs.”

1. Sprinkle the powder onto the head of lettuce, getting in between the leaves and on the outside. Spread the powder around a little with your fingers, and look at the lettuce (and your hands) with the blacklight.

2. Tear the lettuce leaves apart from the head. Rinse the lettuce like you would when making a salad. Use a dish towel to dry the lettuce.
3. Cut or tear the lettuce into small pieces, and put them in a bowl. Now, turn on the blacklight, and take a look at the kitchen you made the salad in. Look at the sink, your hands, the lettuce, the bowl the lettuce is in, the towel, knife, and the cutting board.

There are little spots of glowing germs all over the objects you used to make the salad, spread from your hands and the lettuce. Not only is it important to wash your hands, it is important to wash fruits and vegetables carefully. Be sure to throw away the lettuce after the demonstration is done, and clean the entire area thoroughly with soap and water. If you do not want to do this experiment with a whole head of lettuce, try just a few leaves, or cut half a head. The experiment will still work using less lettuce; it just won't be as dramatic.

Cutting Up Fruit – Experiment #2: Another experiment you can do with the simulated germ powder is to cut up a piece of fruit. Try cutting up a mango, apple, or pear. (Note: Make sure you have adult supervision!)

1. Rub a small amount of Glo Germ™ powder over the surface of the fruit. Wash your hands thoroughly, then slice the fruit on a cutting board.
2. Now, observe the cross-contamination of the germs, using the blacklight.

Where can you see spots of “germs”? On the cutting board, the knife, and the fruit? How can this spread diseases? If someone did not properly wash fruits and vegetables, which touch kitchen utensils or other food, bacteria can spread. This is one way that food poisoning can happen. It is also very important to handle raw meat carefully. Never let meat drip blood on fruits or vegetables nearby. By keeping the kitchen clean and handling food properly, germs and disease can be limited.

Surface Cleaning – Experiment #3: See the behavior of germs on surfaces like a countertop, table, or cutting board.

1. Spread a thin layer of powder of the area you wish to clean. Look at the powder under the blacklight.
2. Now, take a wet rag and wipe the surface of the countertop or other object, cleaning off the white powder. Look at the surface of the countertop again. Does it still glow? Now, use plenty of soap and water to clean off the surface. It is always important to use soap and water or another cleaner, not just wipe off a surface you are trying to clean, to thoroughly remove germs.

For Further Study

To learn more about germs, use the Glo Germ™ gel, a lotion-based simulated germ substance. The Glo Germ™ gel is designed to show why using soap and water with proper hand-washing techniques is necessary to remove germs and harmful bacteria in order to prevent disease.