

Bacteria Experiment Kit

INTRODUCTION:

This simple project can be done by anyone from first graders to senior citizens. It will reveal the presence/absence and numbers of microorganisms on your hands or other body parts. It can also reveal the microbial populations and conditions of common objects that you handle or with which you are in close contact. You might be very surprised to learn that the most contaminated things in the school or home are generally NOT the toilet seat or drinking fountain, but **computer keyboards** and **cell phones**.

Germs can also get onto hands if people touch any object that has germs on it because someone coughed or sneezed on it or was touched by some other contaminated object. When these germs get onto hands and are not washed off, they can be passed from person to person and make people sick.

Dr. Roth invented a compact, easy to use, device that is trademarked the R-CARD®. Its use and other details are shown and described in the supplied protocol.

Use this complete bacteria experiment kit to test and discover the importance of handwashing for yourself!

With the included materials and instructions inside, you'll get to put different hand washing techniques to the test as you:

- See how much bacteria grows from your dirty hands
- See how much bacteria grows from objects that you handle or are in close contact with
- Lather and wash hands with different types of soap or hand sanitizers
- Observe the growth of bacteria as you test the effectiveness of the different types of soap or hand sanitizers
- Compare the bacteria from your unwashed/unsanitized hands to the bacteria from your "clean hands" to help you learn more about proper handwashing techniques & hand hygiene

Kit Content:

- R-Card® Total Count (25)
- 3 mL Sterile Graduated Pipettes (5)
- Sterile Swabs, 6" Cotton-tipped (25)
- 25 mL Sterile Bottled Water (2)
- Instruction Guide and student worksheet

Instruction Guide:

1. Lift the thin, translucent film attached to the bottom card and add 1-2 mL of sterile water (supplied sterile bottled water) in the area of the middle of the bottom card. (It has squares printed to make orientation easy.) You can keep the film away from the card by using a clean heavy object or a clamp (not provided) to hold it away from falling back on the card until the following steps are done.
2. Moisten a sterile swab by dipping it in the sterile bottled water and rub it over the hands, other body parts such as underarm or between your toes, and objects you handled such as computer keyboard, doorknob or cellphone, etc.
3. Stir and roll the contaminated swab gently in the water pool on the card and discard the used swab.
4. Lift the weight from the top so that it will roll back over the inoculated water on the card bottom. The water will then spread out in a circular pattern.
5. place the finished card in a warm place or an incubator at 25-30 degrees Celsius.
6. Allow incubation for 24-48 hrs. and observe what grows.
7. Count the number of colonies (red dots). If the sample has a heavy bacterial population, there may be so much growth that there is just a pink or red area on the card that is indicative of TNTC (TO NUMEROUS TO COUNT).
8. Count the colonies and record the results in the student worksheet.
9. The finished card can be disposed of in 5% Clorox or a container in a hot oven or pressure or autoclave.

Student Worksheet

Name: _____

Date: _____

INOCULUM	# OF COLONIES	NOTES/OBSERVATION