



TESTING WHICH HOUSEHOLD CLEANERS KILL BACTERIA ON SURFACES



You will test different household cleaners to see how well they kill bacteria on a surface.

QUESTION

Which household cleaners are most effective at killing bacteria on surfaces?

HYPOTHESIS

I think _____
will kill the most bacteria
because _____

MATERIALS

- ☐ Petri dishes (with nutrient agar)
- ☐ (or DIY agar plates)
- ☐ Cotton swabs
- ☐ Household cleaners (test 4–5)
e.g., bleach solution, rubbing alcohol, disinfecting wipes, all-purpose cleaner, dish soap
- ☐ Measuring spoons or dropper
- ☐ Paper towels
- ☐ Masking tape and marker
- ☐ Timer or clock
- ☐ Gloves (optional)
- ☐ Hand soap

SAFETY FIRST

- Wear gloves if you have sensitive skin.
- Do not mix cleaners together.
- Work in a well-ventilated area.
- Do not touch your face while experimenting.
- Wash hands thoroughly when finished.

NOTE: Some cleaners (like bleach and alcohol) can be irritating. Follow product labels and ask an adult if you are unsure.

PROCEDURE

1. Label the bottom of each petri dish with the name of a cleaner.
2. Use a clean cotton swab to collect bacteria from a high-touch surface (e.g., doorknob, light switch, kitchen counter, or faucet handle). Rub the swab over the surface.
3. Gently swab the entire surface of the agar in one petri dish. This is your CONTROL (no cleaner).
4. For the other dishes: Put the cleaner on the surface.
 - Add enough cleaner to cover a small area (about 2 inches x 2 inches).
 - Let it sit for 5 minutes.
 - Use a clean cotton swab to swab the same area.
 - Swab the entire surface of the agar in the labeled petri dish.
5. Repeat Step 4 for each cleaner, using a new swab each time.
6. Close the lids and incubate the plates in a warm place (room temperature is okay) for 24–48 hours.
7. Observe the number of bacterial colonies (tiny dots or spots) on each plate.

RESULTS

Cleaner	Time Left (minutes)	Number of Bacterial Colonies (after 24–48 hrs)	How Well It Worked (Best / Good / Fair / Poor)
CONTROL (no cleaner)	0		

Which cleaner worked best? _____

Which worked the least? _____

ANALYSIS

1. What did you observe?

2. Which cleaner killed the most bacteria?

3. Which cleaner killed the least?

4. Why do you think some cleaners worked better than others?



THINK FURTHER: How can you reduce the spread of germs in your home? _____