

Testing the Effectiveness of Hand Sanitizers

Name: _____

Date: _____

Experimenter: _____

In this experiment, you will test and compare how effective different hand sanitizers are at reducing germs.



QUESTION

Which hand sanitizer is the most effective at reducing germs?



HYPOTHESIS

I think _____
will be the most effective because _____



MATERIALS

- 3–4 different hand sanitizers (label them A, B, C, D)
- Agar plates (with nutrient agar) (1 per sanitizer + 1 control plate)
- Cotton swabs
- Marker
- Timer or clock
- Ruler (optional)
- Tape (optional)



SAFETY FIRST

- Do not open agar plates.
- Use cotton swabs carefully.
- Wash hands when the experiment is done.
- Ask an adult for help if needed.

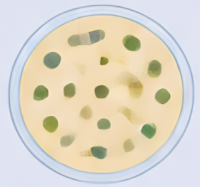


PROCEDURE

1. Label your agar plates as follows:
 - Control (no sanitizer)
 - A, B, C, D (one for each sanitizer)
2. Swab your clean hands with a cotton swab. Spread the swab gently over the Control plate.
3. Use a new cotton swab for each sanitizer test. Put hand sanitizer on your hands and rub for 20 seconds.
4. After 20 seconds, swab your hands and spread the swab over the labeled agar plate (A, B, C, or D).
5. Let all plates sit at room temperature in a safe place for 2–3 days.
6. Observe the plates each day. Count the number of colonies (spots) on each plate.
7. Record your results in the table below.

WHAT IS A COLONY?

A colony is a visible spot of germs (bacteria or yeast) that grows on the agar. More colonies mean more germs were left behind.



RESULTS

Plate	Sanitizer (A, B, C, D or Control)	Number of Colonies (Spots)			Average Colonies (Day 1–3)
		Day 1	Day 2	Day 3	
Control (no sanitizer)					
A					
B					
C					
D					



ANALYSIS & CONCLUSION

1. Which sanitizer was the most effective (fewest colonies on average)? _____
2. Which sanitizer was the least effective (most colonies on average)? _____
3. How did the control plate compare to the others? _____
4. What did you learn from this experiment? _____



CHALLENGE!

Test a homemade hand sanitizer recipe and compare it to store-bought ones!