CARNEGIE SCIENCE CENTER
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Make Your Own Petri Dish

Have you ever wanted to know how much bacteria is on your refrigerator door handle or the underside of the sole of your shoe? Now you can! Compare samples from anywhere around the house in your own homemade petri dish.

What you need:

- A clean plastic petri dish or equivalent, such as a clean clear recycled plastic deli/to-go container with lid
- Unflavored gelatin
- 1 cup measuring cup
- 1 teaspoon measuring spoon
- A pot to boil a small amount of water
- Beef bouillon cubes
- Sugar
- 1 adult to help with hot liquids
- A clean Q-tip
- Tape
- A large zipper-lock bag

Procedure:

1. Measure and pour 1 cup of water into the pot and bring it to a boil. Continue to boil for 2 minutes to ensure it is sterile. Then turn off the burner.
    a. -Add 1 beef bouillon cube and stir until dissolved.
    b. -Add 2 teaspoons of sugar and stir until dissolved.
    c. -Add 2 teaspoons of unflavored gelatin and stir until dissolved.
2. Remove the pot from the stove and allow contents to cool until they are no longer steaming (about 15 minutes).
3. Carefully pour the liquid into your petri dish, enough to cover the bottom. If it's easier, transfer the liquid from the pot to a clean pitcher and then pour into the petri dish from there.
4. Cover the dish with the lid and let sit in the refrigerator overnight.
5. Growing bacteria (and fungi)
    a. Use a Q-tip to swab the object you are testing, then lightly draw a squiggle with your Q-tip onto the surface of the growth medium. Throw the Q-tip away.
    b. Cover the dish **securely**, use tape if necessary and **do not open the dish again**. Place it in a warm place, like under a desk light but not on a radiator or in direct sunlight. The heat is too intense and may cause your growth medium to liquefy.
    c. Check your dish daily. Take pictures and/or draw what you see. Large fuzzy colonies of fungi or smaller white colonies of bacteria should appear on the second or third day.
    d. On the fifth day, dispose of your dish placing it in a large zipper-lock bag, sealing it, and throwing it out. Remember **do not open your dish**; you don't know what kind of bacteria are growing in there!

Things to think about:

What does sterile mean, and why is it important?
What is happening to the liquid in the pot as it cools?
What is a growth medium?
Why is it so important to wash your hands?