



**Background:**

Prokaryotes, viruses, yeasts and molds are found everywhere. The question you will be investigating in this activity is where microorganisms can be found in the greatest abundance. While you complete this lab, it is very important that you wash your hands immediately following the activity, and never open the culture plates once they have been exposed!!!

*NOTE: If you are taking any immunosuppressive drugs, notify your instructor before participating in the lab activity.*

**Materials:**

- 1 50 ml beaker
- 4 sterile swabs
- glass marker
- tape
- hand lens
- waste bag for swabs
- 4 nutrient agar plates
- biohazard waste bag

**Procedures**

1. In your group, label the bottom of 4 nutrient agar plates 1-4 with the date, class period, and your team name or symbol. **DO NOT OPEN THE PLATES!**
2. Leave plate 1 untouched and tape it closed. Why?
3. Decide with your group members where you would like to expose plate one. Place plate #2 uncovered in the selected location for 15-20 minutes. Note in your lab notebook on the data page where you placed plate #2. At the end of the exposure, cover your plate and securely tape it closed.
4. Draw a line across the middle of the bottom of plate 3. Label one half clean, and the other dirty. Select a student desk or lab table, and rub a sterile swab across the top. Then, using the dirty swab side, partially open the plate and gently rub it across the dirty side of the plate. Now, clean a small part of the table or desk with soap and water. Rub the clean area with a sterile swab, then rub it across the clean half of plate 3. Securely tape plate three closed. Why is it important to keep the cover partially closed while swabbing?
5. Draw a line across the middle of the bottom of plate 4. Collect dirt, leaves, bark, or dust from a nearby location. Mix the sample with sterile water and dip a sterile swab into it. Rub one side of the plate with the swab, and label that section according to the materials you collected. Now, dip a new sterile swab into sterile water and rub it across the other side of the plate. Securely tape the plate shut.
6. Double check to make sure all of your plates are labeled and taped shut. Store your plate upside down (nutrient agar side up) for 3-4 days.

**Data: NEVER OPEN YOUR PLATE!**

1. Observe your plate each day and record your observations.
2. On day 3, count the number of colonies present on each plate.
3. On day 4, sketch each plate, noting color, texture, and size of colonies.
4. Discard the plates, still taped shut, in the designated biohazard bag.

	Plate 1	Plate 2	Plate 3 Clean	Plate 3 Dirty	Plate 4 Sterile H <sub>2</sub> O	Plate 4 Sample
Day 1						
Day 2						
Day 3						
Day 4						