

Virtual Bacterial Colony Isolation

| Suggested Age / Grade Level | Curriculum Covered | Duration |
|-----------------------------|--|----------|
| 9, 10, 11, 12 | <ul style="list-style-type: none"> • Bacteria • Microbiology | 1 hr |

Overview/ Learning goals

Students will learn about some of the basic techniques used in microbiology (including aseptic techniques). Students will also have a chance to isolate (virtually) bacterial colonies.

Background Information

Microorganisms are everywhere around us (they are ubiquitous). Think of a place around you and there is a chance that microbes can be found there. Therefore it is very important that microbiology work is conducted in sterile working environments.

Aseptic techniques include washing hands, disinfecting lab benches, working near an open flame or under a biological safety cabinets

Plate streaking is a technique used to isolate pure colonies from a mixture. This isolation is achieved by streaking colonies out onto a nutrient plate.

Key Terms

Microbiology, bacteria, bunsen burner, colony isolation, aseptic techniques.

Materials

A computer with internet connection is required.

Additional Setup Requirements

Please ensure that Flash is enabled on your web browser.

Procedure

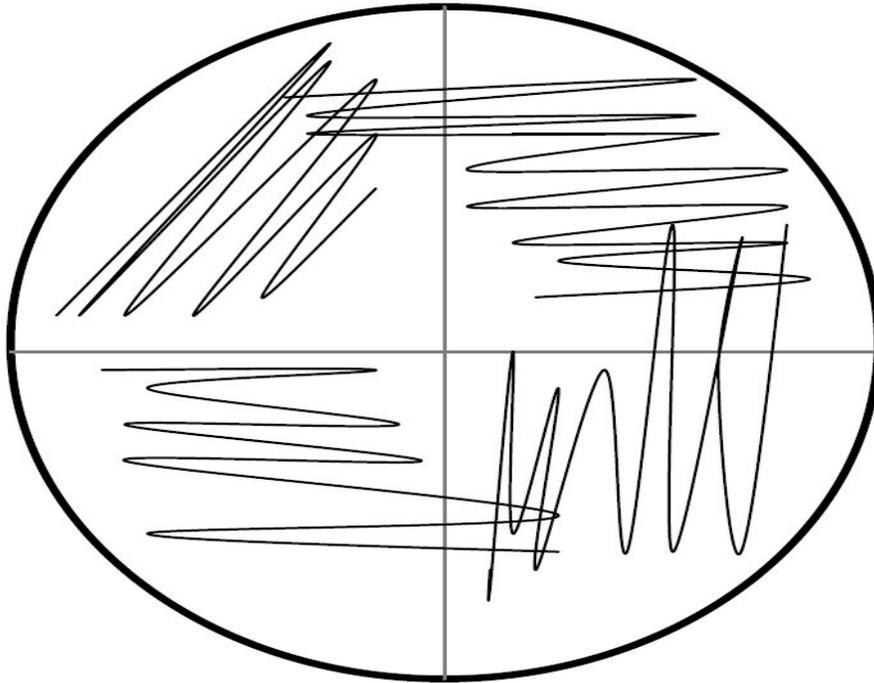
Video- Quadrant Streaking Bacteria - Techniques Demonstration by Dr. Joyce Patrick: <https://youtu.be/CrM4EbmVjqA>

Virtual Streak Plate technique

1. Sterilize the inoculating loop in the bunsen burner by clicking on the loop and dragging it to the burner. Put the loop into the flame until it is red hot then allow it to cool..
2. Pick an isolated colony from the agar plate culture and spread it over the first quadrant (approximately 1/4 of the plate) using close parallel streaks.
3. Flame the loop.
4. Turn the plate 90° and lightly sweep the loop 1-2 times through the inoculated area, then streak into the next quadrant without overlapping the previous Streaks.
5. Flame the loop.
6. Turn the plate 90°, overlap the previous area 1-2 times, and streak into the next quadrant as in step 4.
7. Flame the loop.

Repeat #6, streaking the remainder of the plate.

Invert the plate and incubate at 37°C for 24 hr.



References

1. Michigan State University Board of Trustees (2010). Virtual Interactive Bacteriology Labs. <https://learn.chm.msu.edu/vibl/index.html>