Bi 213 Lab Lab Topic 13: Bacteriology Spring 2009

Notes:

- The main questions for today are, "What are the characteristics defining Domain Bacteria?" and, "What are some ways in which bacteria are classified?
- We will be working with live bacteria today. Wash your hands and clean your lab benches at the start and at the end of lab.
- You have several stains in your tray. There is a reason they are called *stains*. Be careful not to spill or splatter them.
- There will be open flames during part of the lab. Be sure to tie back loose hair and clothing. Have someone at your table in charge of lighting, supervising, and turning off the burner. *Never* leave a lit burner unattended.
- Today you will set up a plant competition experiment, using a separate handout.

Complete in lab:

- Exercise 13.1
    - Lab Study A: This is a superficial and imprecise method. Get a feel for different colony characteristics, but don't spend too much time on this.
    - Lab Study B: This is a more precise method of identifying bacteria, but is also more difficult. You will use an oil immersion lens to look at bacteria. Please ask for assistance before you use the oil. *Don't* use the oil with any lens *except* the immersion lens.
    - Lab Study C: This is another precise method. *Read* the procedures first, *then* carry out the activity, following the procedures carefully.
- Exercise 13.3
    - Experiment A: Each table will have a different material to investigate. Follow the inoculation procedures carefully (see the figure 13.7). Seal your plates with Parafilm before incubating.
- Exercise 13.4
    - Lab Study A: Use commercial paper disks (the same kind that are used in medical labs) that have already been saturated with antibiotics. Create a bacterial "lawn" as shown in Figure 13.8, then apply the disks as directed in the lab.
    - Lab Study B: This time you will use "homemade" antiseptic disks. It is critical that these disks do not drip liquid all over your culture. Tap off excess liquid and "blot" the disks on the inside of their container before applying them to the culture.

Complete for homework (on your own paper; due in two weeks at the start of lab):

- p 315: Discussion questions 1 and 2, Table 13.1
- p 320: Table 13.2, Discussion question 2
- pp 329-330: Table 13.4, Discussion questions 1-4
- p 334: Table 13.5, Discussion questions 1-5
- p 336: Table 13.6, Discussion questions 1-4
- pp 337-339: Applying Your Knowledge questions 1, 2, 3, 5
- Group challenge questions