

## Microbiology Lab Experiment Changes

**Experiment #:** 2-8

**Title:** Effect of Temperature on Microbial Growth

**Live Organisms:** *Bacillus stearothermophilus*, *Pseudomonas fluorescens*,  
*E. coli*

**Changes:** Procedure (Work in groups; 2 groups/table, where possible)

1. Obtain 12 TSB tubes.
2. Label sets of 4 TSB tubes with name of each organism.  
(4 - *E. coli*, 4 - *Bacillus*, 4 - *Pseudomonas*)
3. Label each set of tubes with each temperature:  
10°C, 20°C, 37°C, 60°C.
4. Inoculate each set of tubes with a different organism using sterile swabs.
5. Put tubes into the appropriately labeled test tube rack.  
They will be incubated at each of the 4 temperatures.
6. Next period record the presence of growth. If growth is observed at more than one temperature for the same organism, record the relative amount of growth in each tube.

**Take Home Lesson:** You should be able to define psychrophile, psychrotroph, mesophile and thermophile. Given a set of inoculated and incubated broth tubes, you should be able to recognize a psychrophile, mesophile, and thermophile based on its ability to grow at the indicated temperatures.