Lesson Five
Microorganisms—Growing Bacteria

Standard 5:	**Students will understand that microorganisms range from simple to complex, are found almost everywhere, and are both helpful and harmful.**
Objective 2:	**Demonstrate the skills needed to plan and conduct an experiment to determine a microorganism's requirements in a specific environment.**
Indicator a:	**Formulate a question about microorganisms.**
Indicator b:	**Develop a hypothesis for a questions about microorganism based on observations and prior knowledge.**
Indicator c:	**Plan and carry out an investigation on microorganism.**
Indicator d:	**Display results in an appropriate format (e.g., graphs, tables, diagrams).**
Indicator e:	**Prepare a written summary or conclusion to describe the result in terms of the hypothesis for the investigation on microorganism.**

Procedure

1. Do the activity *And the Bacteria Ran Away with the Petri Dish* 8-3 (Elementary CORE Academy, 2006)
    a. If you want you can do the Invitation to Learn on page 8-4.
    b. Follow the Instructional Procedures on page 8-6.
    c. Here are some more instructions.
        i. There is a recipe to make a culture medium. You will need to do this ahead of time. You can purchase empty Petri dishes from Genesis Scientific by calling 801-367-4871. They are quite cheap. Randy Campbell, the proprietor, can have the Petri Dishes to you within a couple of days.
        ii. You can have one per student or whatever ratio you want for each Petri Dish.
        iii. Once the bacteria are swabbed into the Petri Dishes they need to be sealed with tape and never opened them again. Throw them away sealed.

2. You may want to Google "Petri Dish Bacteria" to be able to see what they are going to see when their growth is done.

3. Here are some YouTube videos telling how to do the experiment: (**View them First)**
    a. http://www.youtube.com/watch?v=1VkB8NzrEBs
    b. http://www.youtube.com/watch?v=tr2UL_vESaw
    c. http://www.youtube.com/watch?v=6-chXVgu8Z0

4. Here are some YouTube videos on what was discovered on some Petri Dishes: **(View Them First)**
    a. http://www.youtube.com/watch?v=LJKiTsgR-24
    b. http://www.youtube.com/watch?v=CEnsfDi4GgQ