

# Growth Rate of Microorganisms

## Formal Lab Report

### I Format

- A. Report *should* be typed.
- B. Doubled Spaced.
- C. 1" Margins
- D. 12 point font
- E. Questions should be written out in either a different color, italicized or bold print to differentiate between question and answer.
- F. Answer any question in complete sentences.
- G. Lab report should follow the scientific method format. Use the steps as headings in the report.

### II Title Page

- A. Include title (center of page)
- B. Heading (bottom right hand side)
  1. Name
  2. Section
  3. Date

### III Problem - *How will the population of microorganisms change over time?*

### IV Gathering Information

- A. What are two types of bacteria?
- B. What are two ways bacteria help plants?
- C. What are the names of each shape of bacteria. Explain what they look like.
- D. What conditions are needed for the growth of microorganisms?
- E. Draw and label the parts of a bacterium.

### V State the Hypothesis – *Answer the question in the problem (I think or an if & then statement).*

### VI Test the Hypothesis

- A. Data - *Make a data table of the population growth from the class results. Please give the table a title.*
- B. Results – *Graphing* Follow the directions given from the handout "*Graphing Data in a Microsoft Excel Spreadsheet*" to make a line graph.
  1. Follow the directions given from the handout "*Graphing Data in a Microsoft Excel Spreadsheet*" to make a bar graph.
  2. Both graphs need a title.

## **VII Conclusion**

- A. What does the bar graph show better than the line graph? Explain.
- B. What does the line graph show better than the bar graph? Explain.
- C. Why do we use graphs to analyze data?
- D. Which dishes have mold?
- E. Did the mold affect the growth rate of the bacteria or would it if timed allowed? Why?
- F. What was your prediction of the bacteria's growth rate - Hypothesis?
- G. Was your prediction correct? Explain why or why not using your data to support your answer.
- H. Explain what variables may have had an impact on our results.
- I. Please do the Critical thinking questions (22 – 26) on page 133 in the Heath textbook.