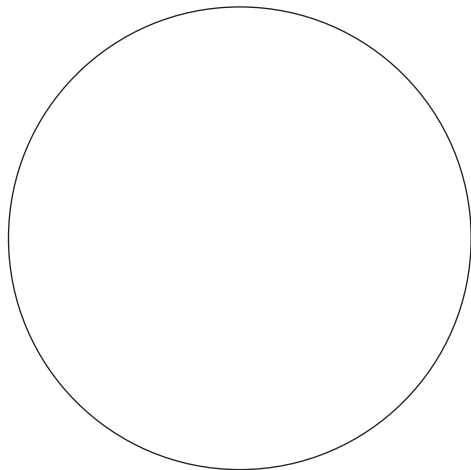
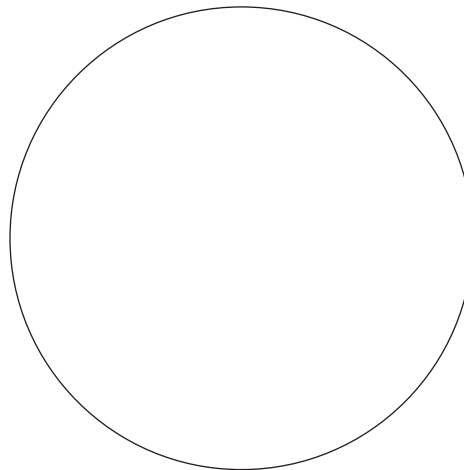


Post-Lab Questions

1. Draw what was observed on each of the two plates. Use colored pencils, or describe in words, the colors observed.



25 °C



37 °C

2. Based on the observed results of this activity, predict what the result would be if a culture of *Serratia marcescens* were grown at a temperature between the two temperatures tested in this activity. Explain your reasoning.
3. If someone had a population of *Serratia marcescens* present on their skin and they came into contact with *rhizopus* mold, would the presence of *S. marcescens* offer resistance to the mold? Explain.
4. Suggest a possible advantage for the *S. marcescens* to have a temperature-sensitive protein like prodigiosin. In your opinion, why would a temperature-dependant pigment be an evolutionary advantage?
5. Based on the incubation temperature in which prodigiosin was produced, what do you believe the optimal growth temperature is for competitors of *S. marcescens*?

3. Examine the gas bubble dimensions from the data table.
 - a. Which food source yielded the greatest quantity of gas?

 - b. Explain why cornstarch and sucrose did not produce the same amount of gas.

4. Why do you think a small gas bubble was visible in the control bag?

5. What is the purpose of the control in this experiment?

Part B. Post-Lab Questions

- 1 How did your group determine the amount of carbon dioxide gas collected during your experiment?

2. Compare your results with a group that used a similar method of CO₂ collection.
 - a. Explain the similarities and differences in the results.

 - b. Describe possible errors involved and their effect on the results.

3. Compare your results with a group that used a different method of CO₂ collection.
 - a. Which group was able to collect more carbon dioxide gas? (*Reminder*: 1 cm³ = 1 mL)

 - b. Which method do you think is a more accurate way to measure the amount of CO₂ gas produced?

4. Although not visible or tested for, what other compound was present inside the tube?

5. The release of gases from burning fossil fuels is a factor in the rise of the Earth's average surface temperature, known as global warming. How might using more biofuels impact global warming?