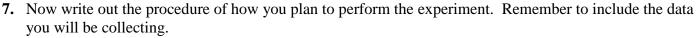# Polymeric Nanoparticle Drug Delivery Lab Report

Name_____Date_____ Class_____

Question:

1. What is the scientific question you are investigating?

Variables:

2. What is the independent variable you are testing?

3. What are some factors that must remain constant in this experiment?

4. What is the dependent variable in this experiment?

Hypothesis:

5. You should now make a hypothesis that is based on your research and our class discussion. How will a change in the independent variable(s) affect the dependant variable? Write your hypothesis in an "if/then" format below. The independent variable should follow the "if" statement and the dependant variable should follow the "then" statement. You should be able to use your background research to help support your hypothesis.

Hypothesis:

Materials:

6. List the materials you will need to run the experiment.

Procedure:

7. Now write out the procedure of how you plan to perform the experiment. Remember to include the data you will be collecting.
   Nanoparticle Lab- Helpful tips!
   *Use masking tape to label your vials based on what is in the solution.
   *Use 10mL of each solution in your vials.
   *Make sure you have a control group.

Data: Create a table for the data before performing your experiment. Be sure to title your table. Ideally we would want to run multiple trials and find an average for our data, but we will only have time to run one trial in this lab. In this section, also take notes of observations you make throughout the experiment.
*If absorbance increases that would mean that a greater amount of dye has exited the bead and gone into the solution.

Graph:

10. Now you must use your data to create a graph, either a bar or line. You must decide which one would represent the data the best. Graph the dependant variable on the y-axis and the independent variable on the x-axis. Be sure to properly title your graph and label both of the axes.

Conclusion:
After analyzing the data you should summarize your results.
    11. What did you find when measuring the dependent variable (give your results)?

    12. State whether your data supports your hypothesis and how you know.

    13. What conclusion can you make about the variable you tested and how it effects the release rate of the drug (dye) from the nanoparticle (alginate bead)

    14. Tell of any errors that may have occurred during the experiment that may have affected your data.