

AP Biology

Name: \_\_\_\_\_

Chapter 9: *The Cell Cycle and Cellular Reproduction*

Date: \_\_\_\_\_

Mitosis Lab

Period: \_\_\_\_\_

Pre-Lab Questions:

1. How many cells are in your body? How were all of those cells produced (from zygote to now)?
2. How does the genetic information in the cells of your toes compare to the genetic information from the cells in your arm?
3. What are some advantages of asexual reproduction in plants?
4. What is the importance of the fact that DNA is replicated prior to cell division?
5. How do chromosomes move inside a cell during cell division?
6. How is the cell cycle controlled? What would happen if the control were defective?
7. Give four purposes for cell division.

8. How is successful division ensured?

Experimental Design: Read through the lab handout for your lab. Using the information give, develop your own hypothesis and experimental design for testing a question about the rate of mitosis in plants. Answer the questions below.

9. What is your experimental hypothesis? What is your null hypothesis? What is the difference between an experimental and null hypothesis?
10. What is your independent variable? What is your dependent variable?
11. Describe your experimental design.
12. What data will you collect, and how will you analyze that data to determine whether it supports your hypothesis?