

Name: _____

Hour: _____

Mitosis under the Microscope

Go to the website listed below and follow the procedure listed on the website:

http://www.biology.arizona.edu/cell_bio/activities/cell_cycle/cell_cycle.html

Read through each page, identify the stages of mitosis shown in the activity, and then record your data at the **END** of the activity from the website in the space below:

Online Onion Root Tip Cells

	Interphase	Prophase	Metaphase	Anaphase	Telophase	Total
Number of cells						36
Percent of cells						100%

$$\text{Percent of Cells in Each Stage} = \frac{\text{\# of Cells in the Stage}}{\text{Total \# of Cells}} \times 100\%$$

Turn your laptop off, return it to the cart, plug it in, and make sure the cord is tucked inside the cart before going on to the next step of the lab.

Notes:

Obtain a prepared slide of onion root tip cells (plant cell) from the front of the room.

*****Remember to start under low power, then move to medium and high power.*****

In your field of view, determine the phases that 36 cells are in and record your data in the table(s) below. Repeat this process a second time using Whitefish Blastula (animal cell) slides.

Prepared Slide of Onion Root Tip Cells

	Interphase	Prophase	Metaphase	Anaphase	Telophase	Total
Number of cells						36
Percent of cells						100

Prepared Slide of Whitefish Blastula

	Interphase	Prophase	Metaphase	Anaphase	Telophase	Total
Number of cells						36
Percent of cells						100

In the space below, compare and contrast animal and plant cells during telophase by drawing what you view under the microscope and labeling the following parts:

Chromosomes Nuclear Membrane

Cytoplasm Cell plate (*if applicable*)

Plant Cell (Onion Root Tip)

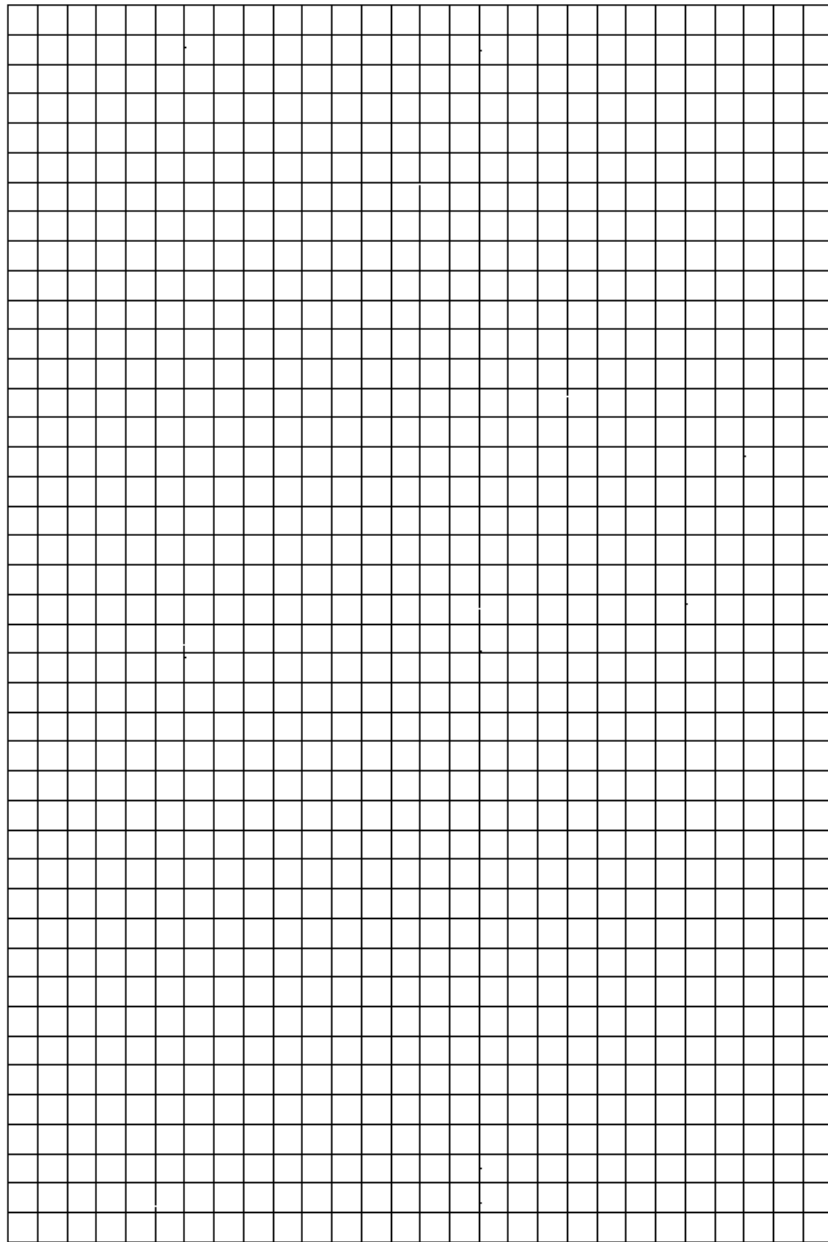
Animal Cell (Whitefish Blastula)



Make a bar graph of the data you have collected (use the data from the **online portion of the lab**). Be sure to label the X and Y axis & include the units of measurement.

Title: _____

Y-axis label: _____



X-axis label: _____

Post Lab Questions

1. What phase(s) were the easiest to identify? WHY?
2. What phase(s) were the hardest to tell apart? WHY?
3. Which part of the cell cycle does the cell spend most of its time in? How did your observations confirm this?
4. Which part of the cell cycle does the cell spend the least amount of time in? How did your observations confirm this?
5. How is telophase in plant cells different from telophase in animal cells?
6. What is a cell plate?
7. If an Onion Root Cell took 24 Hours to complete its Cell Cycle, how many hours would it be in each phase? (base your calculations on the computer simulation data)

Interphase	Prophase	Metaphase	Anaphase	Telophase

8. Why were onion root TIPS and whitefish BLASTULA (developing embryos) chosen as specimens for prepared slides to view the stages of mitosis?