Name:_____ **Bio Teacher:**_____ **Bio Block:**_____

Viewing Mitosis

Mitosis is considered nuclear division, since its main stages deal strictly with the nucleus and its contents (DNA). Mitosis consists of 5 major stages: Interphase, Prophase, Metaphase, Anaphase, and Telophase. Mitosis is part of a larger process called the cell cycle. When a living organism needs new cells to repair damage, grow, or just maintain its condition, cells undergo the cell cycle. In this lab you are going to determine the approximate time it takes for a cell to pass through each of the four stages of mitosis. You may use your class notes to help you identify the stages of mitosis as seen under the microscope.

Materials:
Microscope or magnifying glass
Prepared slide (Whitefish blastodisc or onion root tip)
Lab Paper

Procedure:

1. Set up a compound light microscope and turn on the light).

2. Place a slide containing a stained preparation of the whitefish blastodisc or onion root tip.

3. Locate a section of blastodisc or onion root tip on the slide. (Each section is a collection of cells, not just one cell.)

4. Focus in on low power and then switch to medium or high power. Identify a cell in each stage of mitosis and sketch them in the space below.

INTERPHASE

PROPHASE

METAPHASE

ANAPHASE

TELOPHASE

5. Now, in that one section of blastodisc or onion root tip, count the number of cells found in each stage of mitosis and place the data in the chart below.

6. Determine the percentage of time each cell will spend in each stage of mitosis. Divide the number of each cell by the total number of cells and multiply by 100 to determine the percentage. Place these values in the chart below.

Results

Data Table 1:

Stage of Mitosis	Number of Cells	Percent of time in each stage
Interphase		_____ %
Prophase		_____ %
Metaphase		_____ %
Anaphase		_____ %
Telophase		_____ %
Total number of Cells		**100%**

Conclusion Questions:

1. Of the four stages of mitosis, which one takes the most time to complete?

2. What stage (IPMAT) are most cells in?

3. Which is the shortest stage in duration?

4. What would happen if the process of mitosis skipped metaphase?