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

[**Part 1: Mitosis Mover**](https://biomanbio.com/HTML5GamesandLabs/Genegames/mitosismoverpage.html)

Follow the prompts on the screen to answer and complete this section.

1. What happens before Mitosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What are the 2 uncoiled stringy pieces of DNA in the nucleus called? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What must happen before mitosis can occur?
4. Why is mitosis an important part of cell division?
5. Mitosis create \_\_\_\_\_ cells that are genetically \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ daughter cells.
6. The 4 phases of mitosis are: \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_
7. What important event in prophase happens and why?
8. Sister chromatids of a chromosome are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. Why does the nucleus disintegrate during prophase?
10. What happens to the sister chromatids in metaphase?
11. What happens to the sister chromatids in anaphase?
12. What happens to the chromatids in telophase?
13. What is accomplished by cytokinesis?

[**Part 2: Whitefish Mitosis (animal cells)**](https://www.biologycorner.com/projects/mitosis/whitefish_embryo.html)

Click on each of the images to enlarge. Identify what stage each cell is in for PMAT.

1. Image 1 is showing a cell in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Image 2 is showing a cell in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Image 3 is showing a cell in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Image 4 is showing a cell in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[**Part 3: Onion Root Tip (plant cell)**](https://www.biologycorner.com/projects/mitosis/onion_root.html)

Click on each of the images to enlarge. Identify what stage each cell is in for PMAT, including interphase.

1. Image 1 is showing a cell in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Image 2 is showing a cell in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Image 3 is showing a cell in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Image 4 is showing a cell in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Image 5 is showing a cell in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

FLIP OVER TO CONTINUE THE LAB**→**

[**Part 4: Cell Cycle Onion Root Tip Classification**](http://www.biology.arizona.edu/cell_bio/activities/cell_cycle/01.html)

**READ CAREFULLY AND FOLLOW DIRECTIONS!!!!!**

In this activity, you will be presented with 36 cells from the tip of an onion root. You will classify each cell based on what phase it is in by clicking on the name of the phase (blue link) you think the cell is in. At the end you will count up the cells found in each phase and use those numbers to predict the percentage of cells found in each phase.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Interphase | Prophase | Metaphase | Anaphase | Telophase | Total |
| # of cells |  |  |  |  |  | 36 |
| % of cells |  |  |  |  |  | 100% |

*How do I calculate the % of cell in each phase? See the example…*

% of Cells Calculation: # of cells counted in each phase X 100

 36