

Interactivity: Exploring Mitosis

Name _____

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1. **The Cell Cycle:** Use the graphic to describe the phases of the cell cycle
 - a. Fill in the table with descriptions of each phase:

<u>PHASE</u>	<u>DESCRIPTION</u>
G1 (cell growth)	
S (DNA replication)	
G2 (preparation for mitosis)	
Prophase*	
Metaphase*	
Anaphase*	
Telophase*	
Cytokinesis	

*part of mitosis

2. **Summarize the Cell Cycle:** Use the information given to answer the following questions
 - a. During which phase does the nucleus divide?
 - b. During which phase do the cytoplasm and cell membrane divide?
 - c. During which phase does growth and protein synthesis occur?
 - d. During which phase are chromosomes duplicated?
3. **Phases of the Cell Cycle:** Click through the pictures to observe a cell in each phase of the cell cycle
 - a. Draw a sketch of the cell in each phase of the cell cycle (***part of mitosis**):
 - i. Interphase:
 - ii. ***Prophase:**
 - iii. ***Metaphase:**
 - iv. ***Anaphase:**
 - v. ***Telophase:**
 - vi. Cytokinesis:

4. **Phase of Mitosis:** Drag the images into the correct order of phases

- a. What is unique about the image of prophase?
- b. What is unique about the image of metaphase?
- c. What is unique about the image of anaphase?
- d. What is unique about the image of telophase?

5. **Comparing Cytokinesis:** Use the given information and images to contrast cytokinesis in animal and plant cells

- a. How do plant cells perform cytokinesis?
- b. How do animal cells perform cytokinesis?
- c. Why do these differences exist?

6. **Quiz:**

- a. During what phase of mitosis do the sister chromatids separate?
- b. What does NOT occur during mitosis?
- c. What phase would a cell be in if all the chromosomes were lined up down the middle of the cell?
- d. What phase of mitosis results in the formation of two identical nuclei?