**Mitosis Quiz**

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1. Label the following diagram with the phase of mitosis, (a) through (e), or the type of cell structure, (f) through (h), seen during mitosis.



1. During which stage of a cell’s cycle do the replicated chromosomes thicken and become visible? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. During which stage of a cell's cycle do the replicated chromosomes line up on the equator of the cell? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. During which stage of a cell's cycle do the chromosomes replicate? \_\_\_\_\_\_\_\_\_\_\_\_

1. The drawing below has been made from a photograph showing a cell undergoing mitosis. Based on the drawing, in what stage of mitosis must the cell have been in?



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The drawings A-E show stages of mitosis in a plant cell.



* 1. Which of the drawings A -E shows
		1. interphase \_\_\_\_\_\_\_\_ (**DNA** is replicated)
		2. prophase \_\_\_\_\_\_\_\_ (**chromosomes** – 2 **sister chromatids** – shorten)
		3. metaphase \_\_\_\_\_\_\_\_ (**sister chromatids** line up)
		4. anaphase \_\_\_\_\_\_\_\_ (**sister chromatids** separate)
		5. telophase \_\_\_\_\_\_\_\_ (new nucleus forms at each end)
		6. cytokinesis \_\_\_\_\_\_\_\_ (cell contents divided between 2 **daughter cells**)
	2. Give two processes which occur during interphase and which are necessary for mitosis to take place.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the cell and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the DNA

1. This drawings shows various stages of mitosis in a fast growing onion root tip.



Identify the cells (by number) which are in the following stages of mitosis:

|  |  |
| --- | --- |
| interphase  | \_\_\_\_\_\_\_\_\_\_\_\_\_  |
| prophase  | \_\_\_\_\_\_\_\_\_\_\_\_\_  |
| metaphase  | \_\_\_\_\_\_\_\_\_\_\_\_\_  |
| anaphase  | \_\_\_\_\_\_\_\_\_\_\_\_\_  |
| telophase  | \_\_\_\_\_\_\_\_\_\_\_\_\_  |

1. Using colored pens or pencils, show how 2 chromosomes are passed from parent cell to two daughter cells.

