

Name: _____

Mitosis Microscope Lab

These slides will allow you to view specific cells in various stages of mitosis. Read the accompanying description carefully as you view each slide. Answer the following questions using that information and your notes.

SLIDE ONE

1. What organism was used for these slides (Eukaryote/Prokaryote/Plant/Animal/Bacteria)?
2. What does a cell do during interphase?
3. What does a cell NOT do during interphase?
4. What magnification is this view in?
5. What “signals” that mitosis is beginning?
6. How many “sets” of chromosomes are present at the beginning of mitosis?

SLIDE TWO

1. What is happening to the shape of the nucleus if you compare it to slide one?
2. What stage of mitosis is this?

SLIDE THREE

1. The location of the chromosomes are key to which phase? Find a cell in this phase. If they are close to two phases – pick one phase. Where are the chromosomes located?
2. Why do you think it is important for the chromosomes to do this?
3. What phase is this?

SLIDE FOUR

1. What phase of mitosis is this?
2. What are the chromosomes doing here?
3. What do the spindle fibers look like they are doing?

SLIDE FIVE

1. What phase is this?
2. What happens to the chromosomes in this phase?
3. What is the ultimate purpose of mitosis?

SLIDE SIX

1. What forms at each pole of the cell?
2. How do the number and type of chromosomes in each new cell compare to those in the original cell?

SLIDE SEVEN

1. What is the final stage of mitosis? Find a cell in this stage.
2. What will happen to the faint line between the two reorganizing masses in this view?
3. Go back to slide two phase. How does it compare to this cell – focus on chromosomes?
4. Compare both cell and nuclei. Which cell is more developed?
5. What is the term for the final stage in which one cell becomes two?

SLIDE EIGHT

1. Upon completion of mitosis, what phase does the cell enter and remain in until it begins mitosis again?
2. Neatly sketch and label **any** one phase of mitosis, labeling as many visible parts as you can.

COUNTING: Next, in order to determine which phase a cell spends most of its time in you'll need to take some data points. Look at ten different sections on the slide (move it around) and count the number of cells you see in each phase of Mitosis. I would also like you to ESTIMATE Interphase – do not count – it will take forever ☺

Prophase

Metaphase

Anaphase

Telophase

Interphase

C.E.R. (Claim, Evidence, Reasoning)

1. Claim – Make a statement that answers the original question (Which phase would be most common for a cell to be found in?)
2. Evidence – What evidence do you have that either supports or refutes (does not support) your claim?
3. Reasoning – What does your data imply, or how does your data support or refute your claim? Connect numbers to ideas here. Is your claim correct? How do you know? What other testable questions might arise because of the evidence?