**What is Mitosis? (WP Lab Handout)**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class Section\_\_\_\_\_\_\_\_\_\_

1. What is the purpose of mitosis?
2. What is interphase and why is it important?
3. What is a centrosome? What are centrioles and what is their function?
4. Draw out the first phase of Mitosis in the square below **and** label the nuclear envelope, the plasma membrane, the cytoplasm, the developing bipolar spindle, and the chromosomes. What is this phase called?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Draw out the second phase of Mitosis in the square below **and** label the nuclear envelope fragment (what is happening to it?), the plasma membrane, the spindle pole, the kinetochore microtubule, the polar microtubule, and the chromosomes (what are happening to them?). What is this phase called?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Draw out the third phase of Mitosis in the square below **and** label the nuclear envelope fragment (what is happening to it?), the plasma membrane, the spindle pole, the kinetochore microtubule, the polar microtubule, and the chromosomes (what are they doing?). What is this phase called?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Draw out the fourth phase of Mitosis in the square below **and** label the spindle poles (how are they changing?), the kinetochore microtubule (how is it changing?), the polar microtubule, and the chromatids (what are they doing?). What is this phase called?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. Draw out the fifth phase of Mitosis in the square below **and** label the polar microtubule, the nuclear envelope (what is it doing?), and the chromosomes (what are they doing?). What is this phase called?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Draw out the sixth phase of Mitosis in the square below **and** label the remains of the polar spindle microtubules, the nuclear envelope (what is it doing?), the chromosomes (what are they doing?), the contractile ring, and the centriole pair. What is this phase called?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

To answer questions #10🡪#14 review your notes from the **Google Classroom Mitosis** **Introduction**. You can also review the video at <https://youtu.be/f-ldPgEfAHI>

1. Describe two reasons mitosis is important for your body.
2. What is the goal of mitosis?
3. Before a cell can begin mitosis, the cell must form duplicates of its chromosomes, and produce a supply of organelles for the two daughter cells. This happens during interphase, which is 90% of the cell cycle.

What would happen if cells were in mitosis more than interphase? Can you give an example?

1. What are chromosomes made of?
2. The mitosis cycle begins and ends with diploid cells. In a human, how many chromosomes would be in each of the diploid cells after mitosis?

Bonus question (you need to look this one up & cite your source)

1. How does mitosis differ in plant cells and animal cells?