

Mitosis and Cytokinesis Worksheet

Chromosomes

1. Is the following sentence **true or false**? Chromosomes are not visible in most cells except during cell division.
2. When chromosomes become visible at the beginning of cell division, what does each chromosome consist of?
3. Each pair of chromatids is attached at an area called the ____.

The Cell Cycle

4. The period of growth in between cell divisions is called ____.
5. What is the cell cycle?
6. Write the names of each of the four phases of the cell cycle:
Cell growth =
DNA replication =
Preparation for mitosis =
Mitosis and Cytokinesis =
7. The division of the cell nucleus during the M phase of the cell cycle is called ____ .

Events of the Cell Cycle

8. Interphase is divided into what three phases?
 - a.
 - b.
 - c.
9. What happens during the G1 phase?
10. What happens during the S phase?
11. What happens during the G2 phase?

Mitosis

12. What are the four phases of mitosis?

- a.
- b.
- c.
- d.

___ 13. Write the letter of the name for the two tiny structures located in the cytoplasm near the nuclear envelope at the beginning of prophase in the blank to the left.

- a. centrioles
- b. spindles
- c. centromeres
- d. chromatids

14. What is the spindle?

Match the description of the event with the phase of mitosis it is in. Each phase may be used more than once.

| | | |
|----------|--|--|
| 15. ____ | The chromosomes move until they form two groups near the poles of the spindle. | Phase: a. Prophase b. Metaphase c. Anaphase d. Telophase |
| 16. ____ | The chromosomes become visible. | |
| 17. ____ | A nuclear envelope re-forms around each cluster of chromosomes | |
| 18. ____ | The centrioles take up positions on opposite sides of the nucleus. | |
| 19. ____ | The chromosomes line up across the center of the cell. | |
| 20. ____ | The nucleolus becomes visible in each daughter nucleus. | |

Cytokinesis

21. What is cytokinesis?

22. How does cytokinesis occur in most animal cells?

___ 23. Write the letter of what forms midway between the divided nucleus during cytokinesis in plant cells in the blank to the left.

- a. cell nucleus
- b. cytoplasm
- c. cell plate
- d. cytoplasmic organelles