

Ch. 5: Cell Growth & Division Study Guide

Name: Key

Matching: match the term to the description

A. Prophase B. Interphase C. Telophase D. Metaphase E. Anaphase

E 1. The sister chromatids are moving apart.

B 2. The nucleolus begins to fade from view.

C 3. A new nuclear membrane is forming around the chromosomes.

Cytokinesis 4. The cytoplasm of the cell is being divided.

C 5. The chromosomes become invisible.

D 6. The chromosomes are located at the equator of the cell.

A 7. The nuclear membrane begins to fade from view.

C 8. The division (cleavage) furrow appears.

E 9. The chromosomes are moving towards the poles of the cell.

D 10. Chromatids line up along the equator.

A 11. The spindle is formed.

B 12. Chromosomes are not visible.

B 13. Cytokinesis is completed (as next cycle begins).

C 14. The cell plate is completed.

B 15. Chromosomes are replicated.

C 16. The reverse of prophase.

B 17. The organization phase

Fill in the blank: Some will be used more than once.

A. Prophase
B. Interphase
C. Telophase

D. Metaphase
E. Anaphase
F. Centromere

G. Chromatid
H. Cytokinesis
I. Mitosis

J. Spindle fiber
K. Cell plate

B 18. What phase are daughter cells in as a result of mitosis?

E 19. During what phase of mitosis do centromeres divide and the chromosomes move toward their respective poles?

A 20. What is the phase where chromatin condenses to form chromosomes?

F 21. What is the name of the structure that connects the two chromatids?

G 22. In a chromosome pair connected by a centromere, what is each individual chromosome

called?

I, H 23. What are the two parts of cell division?

J 24. What structure forms in prophase along which the chromosomes move?

D 25. Which phase of mitosis is the last phase that chromatids are together?

B 26. Which phase of the cell cycle is characterized by a non-dividing cell?

J 27. What structure is produced when protein fibers radiate from

centrioles?

 B

29. The period of cell growth and development between mitotic divisions?

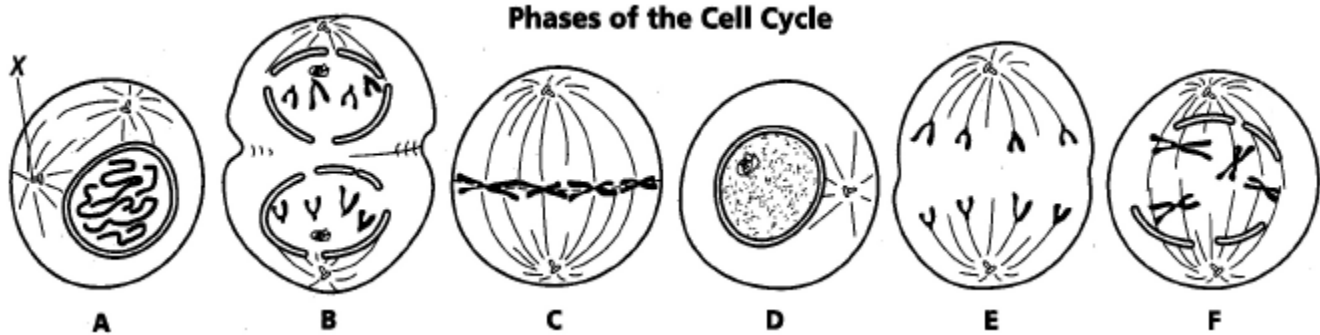
 K

28. What forms across the center of a cell near the end of telophase?

 H

30. What is the phase where cytokinesis occurs?

The diagram below shows six cells in various phases of the cell cycle. Note the cells are not arranged in the order in which the cell cycle occurs. Use the diagram to answer questions 1-7.



_____ 1. Cells A & F show an early and a late stage of the same phase of the cell cycle. What phase is it? **prophase**

_____ 2. Which cell is in metaphase? **C**

_____ 3. Which cell is in the first phase of M phase (mitosis)? **A**

_____ 4. In cell A, what structure is labeled X? **centriole**

_____ 5. List the diagrams in order from first to last in the cell cycle.

DAFCEB

_____ 6. Are the cells depicted plant or animal cells? **animal**

a. Explain your answer. **Cells are round, no cell plate, pinching means that it has a cleavage furrow**

b. If it were the other type of cell what would be different in the diagrams? **Square, cell plate means that it has a cell wall**

_____ 7. What is the longest phase of the cell cycle? **interphase**

8. Why is mitosis important? **Mitosis duplicates nuclear material for 2 daughter cells and allows cells to repair.**

9. Predict what would happen if an individual had faulty spindle fibers. **Daughter cells would end up with the wrong number of chromosomes**

10. Predict what would happen if cytokinesis was skipped. **Cells would have too many chromosomes; cells wouldn't function properly because they would be too big.**