

Q1W6-Biology 10- Test 1.-Cyto-Cell Cycle

Multiple Choice

Identify the choice that best completes the statement or answers the question.

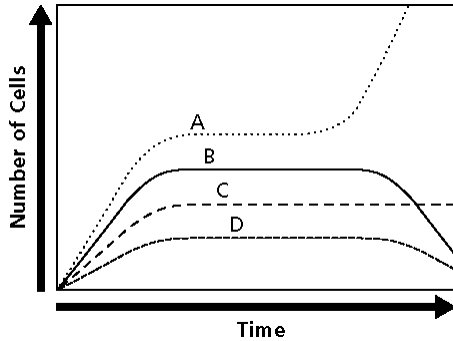


Figure 8-8

- ____ 1. If cancer is present, what is the likely explanation for what happened to cells B and D?
 - a. they thrived with the cancerous cells
 - b. they died off on due to natural causes
 - c. they died off because the cancerous cells deprived them of nutrients
 - d. they were harmed by radiation therapy
- ____ 2. Which of the cells depicted in the line graph in Figure 8-8 are most likely cancerous?
 - a. D
 - b. B
 - c. C
 - d. A
- ____ 3. Water moves out of a cell if the cell is placed in a(n) ____ solution.
 - a. isotonic
 - b. hypertonic
 - c. hypotonic
 - d. passive
- ____ 4. If a cell is placed in salt water, water leaves the cell by _____.
 - a. diffusion
 - b. active transport
 - c. osmosis
 - d. phagocytosis
- ____ 5. Telophase is accompanied by the division of cytoplasm between the two daughter cells. What is this process called?
 - a. Metaphase
 - b. Cytokinesis
 - c. Prophase
 - d. Interphase
- ____ 6. If cells are placed in a strong sugar solution, water will _____.
 - a. pass from the sugar solution to the cells
 - b. stay in the cell
 - c. pass from the cells to the sugar solution
 - d. pass back and forth
- ____ 7. If the sides of a cell double in length, its surface area becomes _____ times as large.
 - a. two
 - b. four
 - c. six
 - d. eight
- ____ 8. The chromosomes shown in Figure 8-6 are in which state of mitosis?

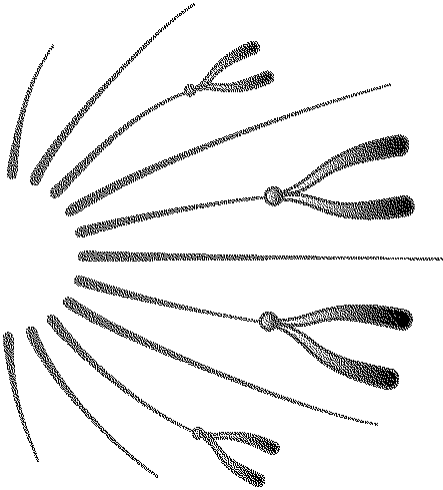


Figure 8-6

- a. telophase
 - b. metaphase
 - c. anaphase
 - d. prophase
- ___ 9. You are conducting osmosis experiments with a test tube of human cells in solution. You add a teaspoon of table salt to the test tube. According to the principles of osmosis, what can you predict will happen to the cells?
- a. They will swell and burst.
 - b. They will undergo rapid mitosis.
 - c. They will not be affected.
 - d. They will shrink and shrivel.
- ___ 10. The longest phase of the cell cycle is ____.
- a. interphase
 - b. mitosis
 - c. prophase
 - d. metaphase
- ___ 11. Which of the following structures is the most complex?
- a. tissue
 - b. cell
 - c. organ system
 - d. organ
- ___ 12. As a cell grows, its ____ increases more than its ____.
- a. volume, surface area
 - b. width, surface area
 - c. length, volume
 - d. none of these
- ___ 13. Which of the following factors limits the size of a cell?
- a. Speed of diffusion
 - b. Amount of DNA
 - c. Surface area of plasma membrane
 - d. All of the above
- ___ 14. Water moves into a cell placed in a(n) ____ solution.
- a. isotonic
 - b. hypertonic
 - c. hypotonic
 - d. osmotic
- ___ 15. The causes of cancer may include which of the following?
- a. viruses
 - b. environmental influences
 - c. UV radiation
 - d. all of the above
- ___ 16. By what process do cells transport wastes from within the cell to the external environment?
- a. Passive transport
 - b. Facilitated diffusion
 - c. Endocytosis
 - d. Exocytosis
- ___ 17. A cell moves particles from a region of lesser concentration to a region of greater concentration by ____.
- a. facilitated diffusion
 - b. active transport
 - c. osmosis
 - d. passive transport

- ____ 18. Which of the following monitors a cell's progress from phase to phase during the cell cycle?
- lipid molecules
 - protein molecules
 - a series of enzymes
 - microtubules
- ____ 19. Which of the following explains why a cell's size is limited?
- Volume increases faster than surface area.
 - Surface area increases faster than volume.
 - Homeostasis is disrupted by a cell that is too large.
 - both a and c
- ____ 20. During which phase of mitosis are sister chromatids pulled to opposite sides of the cell?
- Metaphase
 - Telophase
 - Anaphase
 - Prophase
- ____ 21. A chromatid is attached to a spindle fiber by the ____.
- centriole
 - centromere
 - deep furrow
 - nucleolus
- ____ 22. The structure most responsible for maintaining cell homeostasis is the ____.
- mitochondrion
 - plasma membrane
 - cell wall
 - cytoplasm
- ____ 23. Failure to control the cell cycle can be caused by —
- overproduction of enzyme.
 - lack of enzyme production.
 - inappropriate expression of enzyme.
 - All of the above
- ____ 24. A gene is a segment of DNA that controls the production of ____.
- proteins
 - centromeres
 - carbohydrates
 - microtubules
- ____ 25. If the sides of a cell double in length, its volume increases by ____ times.
- two
 - six
 - eight
 - four
- ____ 26. Among the following, the term that includes the others is ____.
- mitosis
 - cell cycle
 - nuclear division
 - interphase
- ____ 27. In some cases, cancer can spread from one part of the body to another. What is the spread of cancer called?
- Tumorigenesis
 - Malignancy
 - Osmosis
 - Metastasis
- ____ 28. By the end of prophase, each of the following has occurred except ____.
- lining up of chromosomes in the cell
 - disappearing of the nucleolus
 - breaking down of the nuclear envelope
 - tighter coiling of the chromosomes
- ____ 29. Unlike plant cells, animal cells contain ____.
- spindles
 - nucleoli
 - cell walls
 - centrioles
- ____ 30. Which of the following does NOT occur during interphase?
- Chromosome duplication
 - Cell growth
 - Cell metabolism
 - Cell division

Matching

Match each item with the correct statement below.

- | | |
|---------------|------------------------|
| a. exocytosis | d. isotonic solution |
| b. gene | e. osmosis |
| c. diffusion | f. hypertonic solution |

- _____ 31. diffusion of water molecules through a selectively permeable membrane
- _____ 32. a segment of DNA that controls the production of a protein
- _____ 33. the concentration of dissolved substances in the solution is the same as the concentration of dissolved substances inside the cell
- _____ 34. movement of particles from an area of higher concentration to one of lower concentration
- _____ 35. the concentration of dissolved substances outside the cell is higher than the concentration inside the cell

Match each item with the correct statement below.

- | | |
|--------------------------|---------------------|
| a. energy | e. active transport |
| b. facilitated diffusion | f. exocytosis |
| c. endocytosis | g. carrier protein |
| d. passive transport | h. channel protein |

- _____ 36. Process by which a cell expels wastes from a vacuole
- _____ 37. Is used during active transport but not passive transport
- _____ 38. Process by which a cell takes in material by forming a vacuole around it
- _____ 39. Transport protein that provides a tubelike opening in the plasma membrane through which particles can diffuse

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