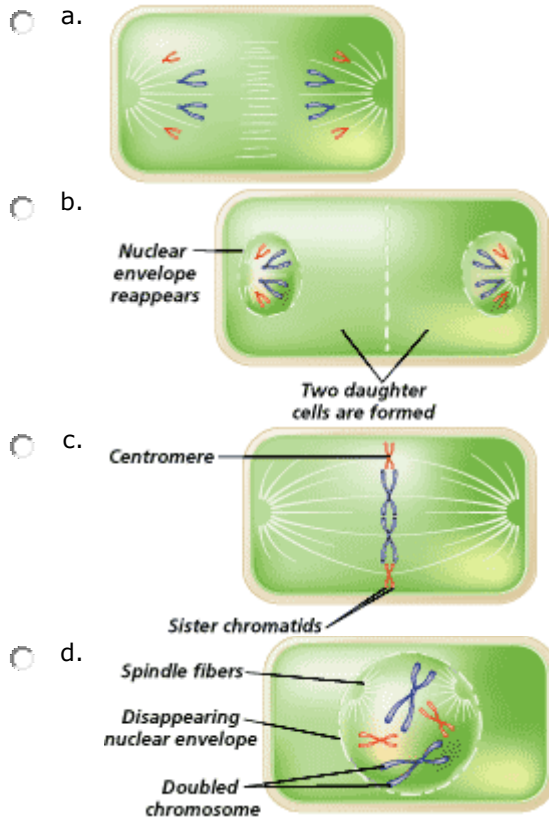


Chapter 8: Cellular Transport and the Cell Cycle

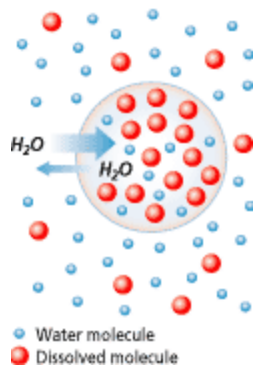
1. During metaphase, the chromosomes move to the equator of the spindle. Which of these illustrations shows metaphase?



2. Which one of these statements is true?

- a. Although they have conducted many studies, scientists have yet to find a link between healthy eating and lifestyle habits and the incidence of cancer.
- b. Compared to the United States, Japan has a relatively high rate of breast cancer incidences.
- c. Late-stage cancers cause disruptions in the functions of organs and organ systems.
- d. Diets low in fiber and high in fat may help reduce the risks of developing different types of cancer.

3. Look at the illustration of an animal cell. What does the illustration represent?



- a. an isotonic solution
 - b. a hypotonic solution
 - c. concentration gradient
 - d. a hypertonic solution
4. Which of these statements is correct?
- a. Groups of cells work together as tissue to form a specific function for the organism's body.
 - b. The cell's cytoplasm becomes whole during cytokinesis.
 - c. The cell's cytoplasm divides during metaphase.
 - d. All the cells in a multicellular organism are exactly the same size.
5. _____, found in yellow and orange and leafy green vegetables, may be one type of food that help prevent cancer.
- a. Carotenoids
 - b. Genes
 - c. Fats
 - d. Vitamin E
6. Which process does an organism use to move large molecules into a cell?
- a. facilitated diffusion
 - b. endocytosis
 - c. simple diffusion
 - d. exocytosis
7. _____ is when water diffuses across a selectively permeable membrane.

- a. Endocytosis
- b. Osmosis
- c. Diffusion
- d. Exocytosis

8. What are the characteristics of an isotonic solution?

- a. When the concentration of dissolved substances in the solution is the same as the concentration of dissolved substances inside the cell.
- b. When the concentration of dissolved substances in the solution is lower than the concentration of dissolved substances inside the cell.
- c. When there is no concentration of dissolved substances in the solution and there is minimal concentration of dissolved substances inside the cell.
- d. When the concentration of dissolved substances in the solution is higher than the concentration of dissolved substances inside the cell.

9. Which of these shows the correct order of the phases of mitosis?

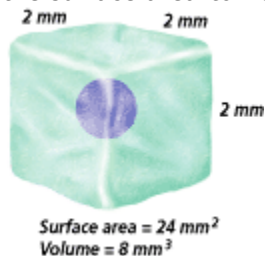
- a. Metaphase-Prophase-Telophase-Anaphase
- b. Prophase-Metaphase-Anaphase-Telophase
- c. Telophase-Anaphase-Metaphase-Prophase
- d. Anaphase-Metaphase-Prophase-Telophase

[Hint](#)

10. Which of these statements is NOT true?

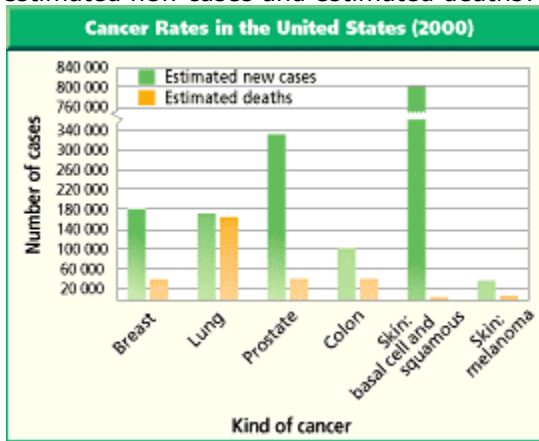
- a. Watch for skin color changes to a variety of colors such as red, dark blue, or gray, since this may be an indication of melanoma.
- b. Nutritionists and scientists have linked a diet high in fruits and vegetables as one way to reduce the risk of developing colon cancer.
- c. Cancer deaths are not very prevalent in the United States.
- d. Avoiding the use of tobacco is a healthy lifestyle choice that is known to reduce the risk of cancer.

11. One factor that limits cell size is the surface-to-volume ratio. Look at the cell below. What is the surface area-to-volume ratio of this cell?



- a. 1:6
- b. 6:1
- c. 3:1
- d. 1:3

12. According to the data in the graph, which type of cancer had the greatest difference between estimated new cases and estimated deaths?



- a. Skin: melanoma
- b. Breast
- c. Lung
- d. Skin: basal cell and squamous

13. Which of these statements about simple diffusion and active transport is true?

- a. Simple diffusion requires energy input from the cell, while active transport does not.
- b. Simple diffusion and active transport are both classified as active methods of moving materials across the cell membrane.
- c. Simple diffusion does not use transport proteins, while active transport uses carrier proteins for transport.
- d. Simple diffusion and active transport both use the concentration gradient for their direction of movement.

14. What happens to a cell during interphase?

- a. Chromatin coils up into visible chromosomes.
- b. The cell grows in size and carries on metabolism.
- c. Two daughter cells are formed.
- d. The sister chromatids separate.

15. Which part of the human body are most skin cancer cases found to develop on?

- a. foot
- b. abdomen
- c. face
- d. chest