

Test-Taking Tip

If after reading all of the answer choices you are not sure which one is correct, eliminate the choices that you know are wrong. Then, select your answer from the remaining choices.

Directions: Choose the letter that best answers the question or completes the statement.

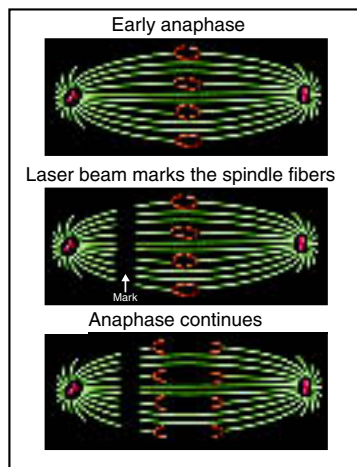
- Which of the following is NOT related to a cell's ratio of surface area to volume?
(A) cell size
(B) rate of growth
(C) number of nuclei
(D) efficiency of cell's transport of oxygen
(E) efficiency of cell's transport of nutrients
- Which family of proteins regulates the timing of the cell cycle in eukaryotes?
(A) chromatids (D) DNA and RNA
(B) chromosomes (E) cyclins
(C) nutrients
- Which of the following is NOT a phase of mitosis?
(A) anaphase (D) prophase
(B) metaphase (E) interphase
(C) telophase
- Chromatids are attached to each other at the
(A) nucleus. (D) cell plate.
(B) centriole. (E) cell membrane.
(C) centromere.
- In the cell cycle, the period between cell divisions is called
(A) interphase. (D) telophase.
(B) prophase. (E) cytokinesis.
(C) G₃ phase.

Questions 6–9 Each of the lettered choices below may refer to the following numbered statements. Select the best lettered choice.

- Mitosis
 - Cell cycle
 - Cytokinesis
 - Cancer
 - Interphase
- a process in which unregulated cell division occurs
 - a process of cytoplasmic division
 - series of events that cells go through as they divide and grow
 - the division of the cell nucleus

Questions 10–12

The spindle fibers of a dividing cell were labeled with a fluorescent dye. At the beginning of anaphase, a laser beam was used to stop the dye from glowing on one side of the cell, thereby marking the fibers, as shown in the second diagram. The laser did not inhibit the normal function of the fibers.



- This experiment tests a hypothesis about
(A) how chromosomes migrate during cell division.
(B) how fluorescent dyes work in the cell.
(C) the effect of lasers on cells.
(D) the effect of lasers on fluorescent dye.
(E) why cells divide.
- The diagram shows that the spindle fibers
(A) shorten on the chromosome side of the mark.
(B) lengthen on the chromosome side of the mark.
(C) shorten on the centriole side of the mark.
(D) lengthen on the centriole side of the mark.
(E) do not change in size on either side of the mark.
- A valid conclusion that can be drawn from this experiment is that
(A) centrioles pull chromosomes toward the poles of the cell.
(B) chromosomes do not migrate in the presence of dye.
(C) lasers inhibit the migration of chromosomes.
(D) chromosomes migrate only when treated with dye.
(E) chromosomes travel along the fibers toward the poles of the cell.

Standardized Test Prep

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|------|------|-------|
| 1. C | 5. A | 9. A |
| 2. E | 6. D | 10. A |
| 3. E | 7. C | 11. A |
| 4. C | 8. B | 12. E |

Performance-Based Assessment

Students' flip-books should include several illustrations for each of the four phases of the cell cycle, including several pages for each phase of mitosis. Those pages illustrating mitosis should be similar to the illustrations in Figure 10–5. The flip-books should illustrate all the major events in the cell cycle on pages 246–247. Initiate a way that students can exchange flip-books at random, such as by drawing names out of a hat. Students should evaluate a flip-book by deciding how well the flip-book movie puts across the events of the cell cycle.

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