

10.3 Regulating the Cell Cycle

Controls on Cell Division

For Questions 1–6, write *True* if the statement is true. If the statement is false, change the underlined word or words to make the statement true.

- _____

1. Cells tend to continue dividing when they come into contact with other cells.
- _____

2. Cell division speeds up when the healing process nears completion.
- _____

3. Proteins called growth factors regulate the timing of the cell cycle in eukaryotic cells.
- _____

4. If chromosomes have not attached to spindle fibers during metaphase, an internal regulatory protein will prevent the cell from entering anaphase.
- _____

5. Growth factors are external regulatory proteins that slow down the cell cycle.
- _____

6. Once apoptosis is triggered, a cell proceeds to self-destruct.

7. Complete the cause-and-effect chart by giving an example of an effect caused by each type of regulatory protein.

Factors Affecting the Cell Cycle	
Cause	Effect
Cyclins	
Internal regulatory proteins	
External regulatory proteins	

Cancer: Uncontrolled Cell Growth

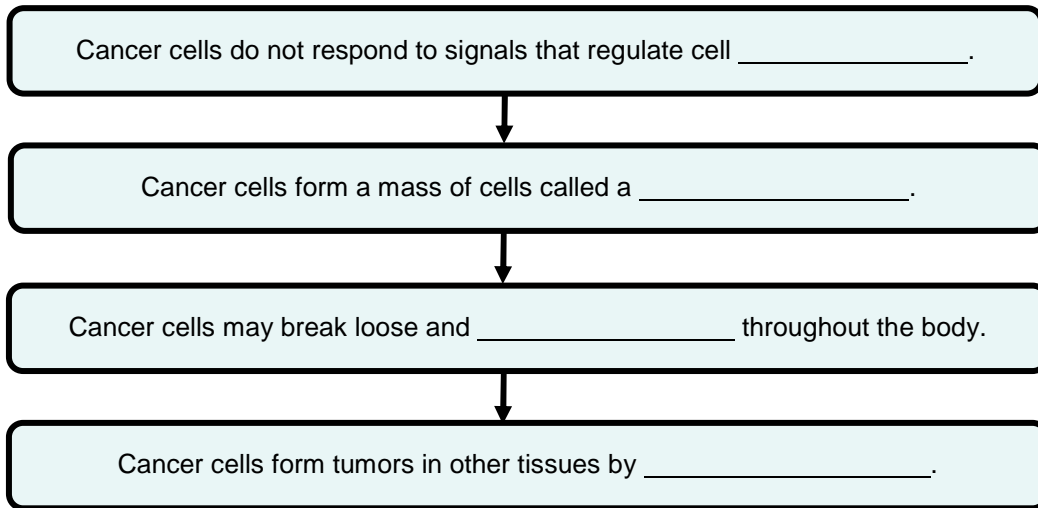
8. What is cancer?

9. What are the two basic types of tumors? Explain how they are different.

10. Why can cancer be life threatening?

11. What is the cause of cancer?

13. Fill out the flowchart by completing each statement with the correct word or words.



Apply the Big idea

14. Hair grows from hair follicles, pockets of continually dividing cells in the outer layer of the skin. New cells are added to the base of a hair shaft, inside each follicle. Use what you have learned in this lesson to explain why cancer patients often lose their hair when receiving chemotherapy and grow more hair after chemotherapy stops.
