copyright1Name Date Class



**CHAPTER 9**

**Section 2: Mitosis and Cytokinesis**

***Study Guide***

**In your textbook, read about the stages of mitosis.**

*For each statement below, write* true *or* false.

**1.** The nuclear membrane disintegrates during prophase.

**2.** Microtubules move chromatids to the poles of the cell during anaphase.

**3.** Chromosomes reach the poles of the cell during metaphase.

**4.** The cell’s chromatin condenses into chromosomes during prophase.

**5.** The nuclear envelope re-forms during anaphase.

**6.** Chromosomes attach to spindle fibers and line up along the equator of  
the cell during metaphase.

**7.** The nucleus reappears during prophase.

**8.** Centrioles migrate to the poles of the cell during telophase.

**9.** Chromatids are pulled apart during anaphase.

**10.** The first stage of mitosis is telophase.

**11.** The chromosomes decondense or unwind during telophase.

**12.** One of the shortest stages of mitosis is metaphase.

*Label the diagram of the stages of mitosis using lines 13–16. Use these choices:*

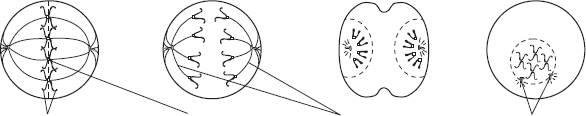
|  |  |  |  |
| --- | --- | --- | --- |
| **anaphase** | **metaphase** | **prophase** | **telophase** |

**13.**

**14.**

**15.**

**16.**



**17.**

**18.**

**19.**

**20.**

*Label the diagrams above using lines 17–20. Use these choices:*

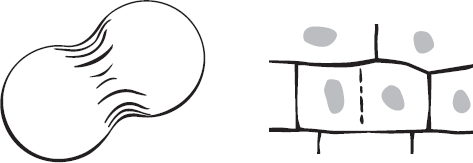
|  |  |  |  |
| --- | --- | --- | --- |
| **centrioles** | **centromere** | **sister chromatids** | **spindle fibers** |

**126** Cellular Reproduction CHAPTER 9 Unit 2

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***Study Guide,* Section 2: Mitosis and Cytokinesis** continued

**In your textbook, read about cytokinesis.**



|  |  |
| --- | --- |
| **Animal cell** | **Plant cells** |

*Refer to the diagrams above. Respond to each statement.*

**21. Discuss** the role of microfilaments in cytokinesis.

**22. Summarize** cell division in prokaryotes.

*Draw the formation of two genetically identical cells in plants in the space below. Include the  
following labels:* cell plate, identical daughter cells, new cell wall.

**23.**

Unit 2 CHAPTER 9 Cellular Reproduction **127**