

Skills Worksheet

# Critical Thinking

## Look-Alikes

In the space provided, write the letter of the phrase that best describes how each numbered item looks.

- |                                   |  |
|-----------------------------------|--|
| _____ 1. extended chromatin fiber | a. beads on a string                                     |
| _____ 2. sister chromatids        | b. cars of a train                                       |
| _____ 3. metaphase                | c. a milkweed seed or an aster flower                    |
| _____ 4. genes in a chromosome    | d. a narrow X  |
| _____ 5. chromosome in bacteria   | e. a long line of X's jumping rope                       |
| _____ 6. centrosome               | f. a rubber band wound around itself in corkscrew shapes |

## Work-Alikes

In the space provided, write the letter of the term or phrase that best describes how each numbered item functions.

- |                            |   |
|----------------------------|---|
| _____ 7. histone core      | a. database of information                        |
| _____ 8. DNA               | b. spool  |
| _____ 9. stages of mitosis | c. scenes of a play                               |
| _____ 10. the cell cycle   | d. fishing line attached to a reel                |
| _____ 11. spindle          | e. a family picture with four or more generations |

## Cause and Effect

In the space provided, write the letter of the term or phrase that best matches each cause or effect given below.

- | Cause                  | Effect           |   |
|------------------------|------------------|---|
| 12. _____              | cancer cells die | a. plant cells separate   |
| 13. mitosis            | _____            | b. DNA defect prevents cell from responding to checkpoint signals |
| 14. _____              | tumor forms      | c. patient gets "chemo"   |
| 15. smoking cigarettes | _____            | d. one nucleus becomes two nuclei                                 |
| 16. cell plate forms   | _____            | e. lung cancer  |

Critical Thinking *continued***Linkages**

In the spaces provided, write the letters of the two terms or phrases that are linked together by the term or phrase in the middle.

- |  |                                       |
|--|---------------------------------------|
| 17. _____ mitosis _____                          | a. cell goes into resting phase       |
| 18. _____ synthesis (S) phase _____              | b. interphase                         |
| 19. _____ anaphase _____                         | c. DNA copied                         |
| 20. _____ G <sub>2</sub> checkpoint _____        | d. second gap (G <sub>2</sub> ) phase |
| 21. _____ cell is large but not healthy<br>_____ | e. enzymes correct faulty DNA         |
|  | f. cytokinesis                        |
|  | g. G <sub>1</sub> checkpoint          |
|  | h. telophase                          |
|  | i. first gap (G <sub>1</sub> ) phase  |
|  | j. metaphase                          |

**Analogies**

An analogy is a relationship between two pairs of terms or phrases written as  $a : b :: c : d$ . The symbol  $:$  is read as “is to,” and the symbol  $::$  is read as “as.” In the space provided, write the letter of the pair of terms or phrases that best completes the analogy shown.

- |   |                                   |                                  |
|---|-----------------------------------|----------------------------------|
| _____ 22. chromatin : DNA and proteins ::   | a. gene : centromeres             | c. spindle fiber : microtubules  |
|   | b. nucleosome : DNA alone         | d. centrosome : histones         |
| _____ 23. prokaryote : eukaryote ::         | a. mitosis : cytokinesis          | c. cell membrane : cell wall     |
|   | b. the cell cycle : the egg cycle | d. twisted loop : chromatids     |
| _____ 24. metaphase : meet ::               | a. anaphase : separate            | c. telophase : double            |
|   | b. prophase : double              | d. telophase : line up           |
| _____ 25. skin cell : short interphase ::   | a. bacterial cell : long prophase | c. plant cell : long telophase   |
|   | b. nerve cell : long interphase   | d. tumor cell : long interphase  |
| _____ 26. chromosome : sister chromatids :: | a. only child : single parent     | c. only child : twins            |
|   | b. only child : older brother     | d. only child : cousins          |
| _____ 27. plant cell : cell plate ::        | a. animal cell : nucleus          | c. animal cell : chromatids      |
|   | b. animal cell : cytoplasm        | d. animal cell : protein threads |