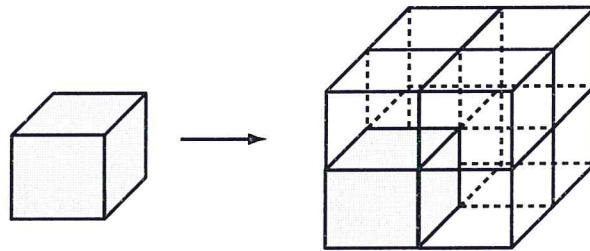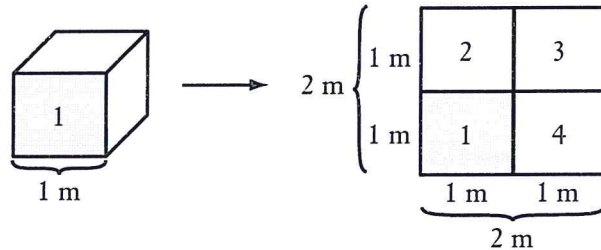# CHAPTER 11 CELL REPRODUCTION

Get the Big Picture

Study the picture to answer the questions.

When a cube is doubled in size, the surface area
grows by four times the size. The inside area,
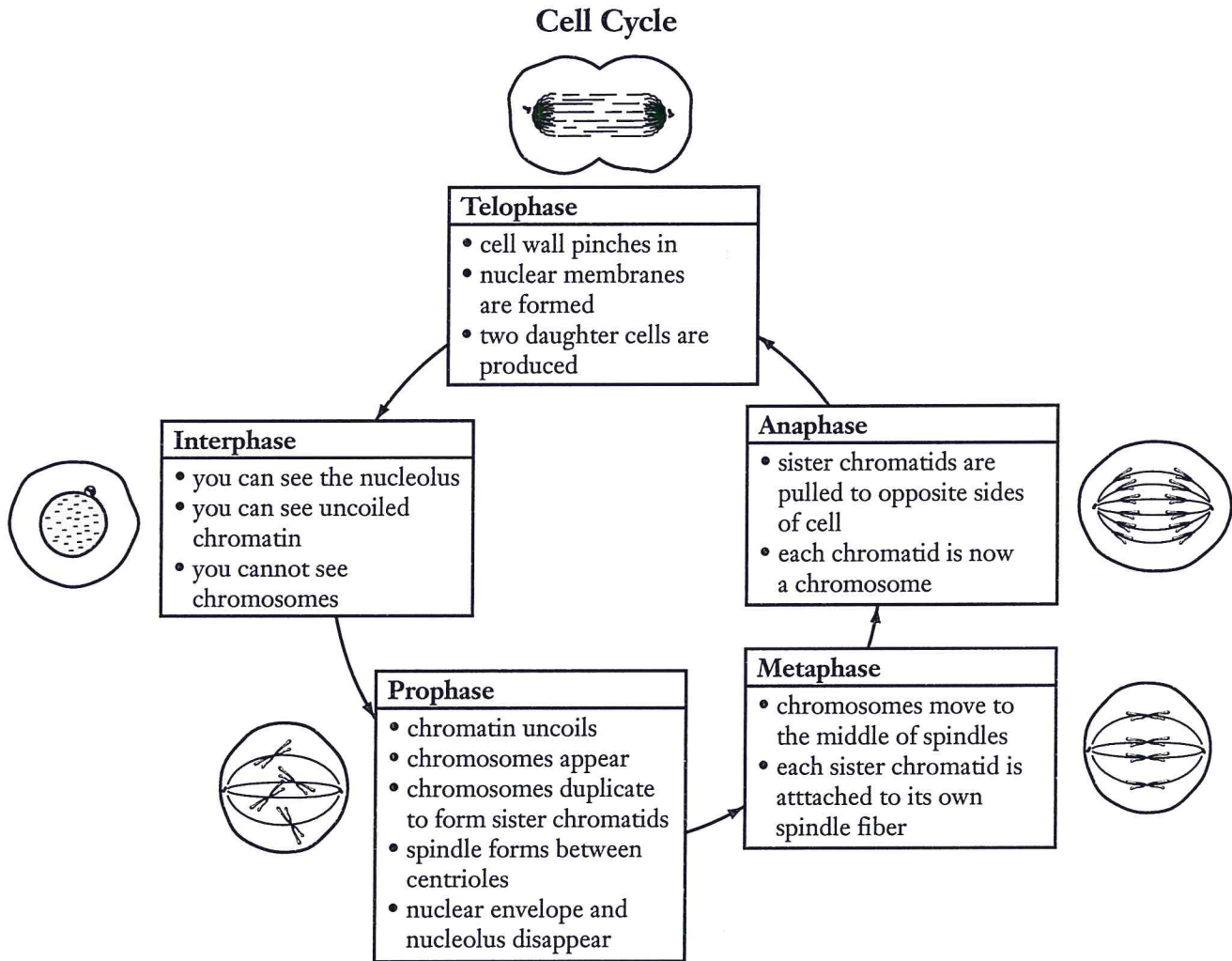called the volume, grows by eight times.

1. Suppose you double the length, height, and width of a cube. How many times does the *outside* area of the cube increase by? _____

2. What is the name for this outside area? _____

3. Suppose you double the length, height, and width of a cube. How many times does the *inside* area of the cube increase by? Hint: count the number of little cubes inside the big cube.

_____

4. What is the name for this inside area? _____

5. Think about what you have just learned about what happens to the surface area and volume of a cube when it doubles. What will happen to the surface area and volume of a cell if it doubles?

_____

_____

6. What does a cell do to make sure that it does not grow too big? _____

CHAPTER **11** CELL REPRODUCTION

Section 11.1 Cell Growth and Reproduction
Study the Cell Cycle

Cell Cycle

Telophase
- cell wall pinches in
- nuclear membranes are formed
- two daughter cells are produced

Interphase
- you can see the nucleolus
- you can see uncoiled chromatin
- you cannot see chromosomes

Prophase
- chromatin uncoils
- chromosomes appear
- chromosomes duplicate to form sister chromatids
- spindle forms between centrioles
- nuclear envelope and nucleolus disappear

Anaphase
- sister chromatids are pulled to opposite sides of cell
- each chromatid is now a chromosome

Metaphase
- chromosomes move to the middle of spindles
- each sister chromatid is atttached to its own spindle fiber

Study the diagram and answer the questions.

1. What are the five phases of the cell cycle? _____

    _____

2. Two daughter cells form during which phase of the cell cycle? _____

3. Sister chromatids form two separate chromosomes during which phase? _____

4. Chromosomes move to the middle of the spindles during which phase? _____

5. You first see the chromosomes during which phase? _____