Name_____ Date_____ Class _____

Study Guide

CHAPTER 7

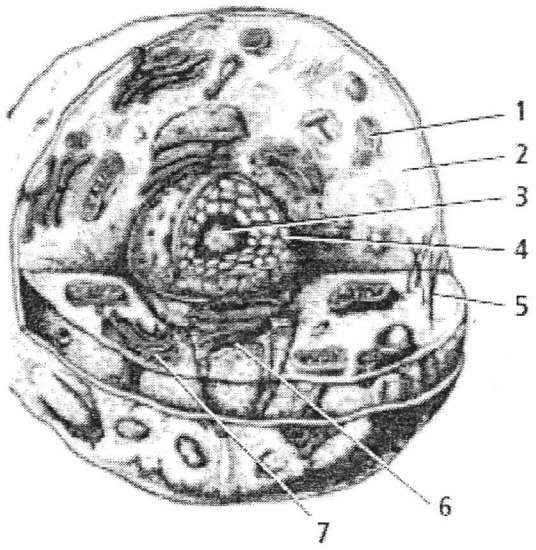
Section 3: Structures and Organelles

In your textbook, read about structures and organelles.

Label the diagram of a typical animal cell. Use these choices:

cytoplasm **endoplasmic reticulum** **Golgi apparatus** **microtubules**
mitochondrion **nucleolus** **nucleus**

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____



If the statement is true, write true. *If the statement is false, replace the italicized word or phrase to make it true.*

8. Microtubules are long, hollow protein cylinders that form *a rigid skeleton for the cell.*

_____

9. The *Golgi apparatus* contains most of the cell's DNA.

_____

10. The nucleolus is the structure that produces *sugars.*

_____

11. The *endoplasmic reticulum* is a stack of membranes that packages proteins into sacs called vesicles.

_____

12. The *cytoplasm* is the semifluid internal environment of the cell.

_____

Name _____ Date _____ Class _____

Section Quick Check

CHAPTER 7

Section 3: Structures and Organelles

After reading the section in your textbook, respond to each statement.

1. **List** the three major components that are found in **every** cell.

2. **Identify** a structure other than a cell wall or a vacuole that might be found in a plant cell but not in an animal cell. Explain why an animal cell would not have the structure you identify.

3. **Cite** the essential cell processes that organelles perform.

4. **Infer** why muscle cells contain more mitochondria than do skin cells.

5. **Depict** the role of the organelles within a cell, using the metaphor of a factory.

PARTS OF THE EUKARYOTIC CELL

MULTIPLE CHOICE Write the correct letter in the blank.

_____ 1. The cell membrane

a. allows all substances to pass into and out of the cell.
b. prevents all substances from passing into and out of the cell.
c. is composed mainly of a protein bilayer.
d. is composed mainly of a lipid bilayer.

_____ 2. Substances produced in a cell and exported outside of the cell would pass through the

a. endoplasmic reticulum and Golgi apparatus.
b. mitochondria and Golgi apparatus.
c. nucleus and lysosomes.
d. vacuoles and lysosomes.

_____ 3. Cells that have a high energy requirement generally have many

a. nuclei. **b.** flagella. **c.** mitochondria. **d.** microfilaments.

_____ 4. Viruses, bacteria, and old organelles that a cell ingests are broken down in

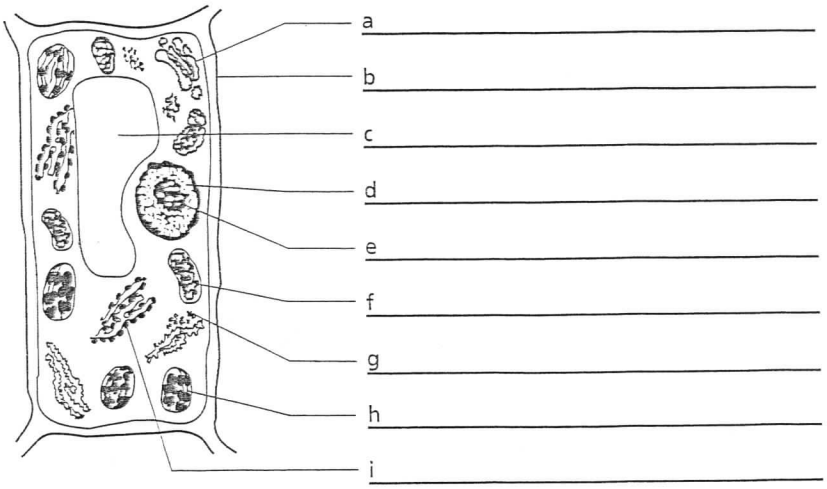
a. ribosomes.
b. lysosomes.
c. the rough endoplasmic reticulum.
d. the smooth endoplasmic reticulum.

_____ 5. Organelles that are surrounded by two membranes and contain DNA are the

a. nucleus, the endoplasmic reticulum, and lysosomes.
b. nucleus, the endoplasmic reticulum, and chloroplasts.
c. nucleus, chloroplasts, and mitochondria.
d. endoplasmic reticulum, mitochondria, and the Golgi apparatus.

6. **STRUCTURES AND FUNCTIONS** Label each part of the figure in the spaces provided.

This diagram represents a typical plant cell.



7a) What are ribosomes made of? _____

_____

7b) What cellular function are they involved in? _____

_____

8) What is the cytoskeleton, and what are two of its major components? _____

_____

9a) What are plant cell walls made of? _____

9b) What is the function of cell walls? _____

10) **Critical Thinking** When lipid is added to a solution of a detergent in water, the detergent breaks up large globules of the lipid into much smaller globules. What effect do you think a detergent would have on the integrity of cells? Explain your answer. _____

_____

_____