

## CHAPTER 4: Organelle Review

Explain how the following organelles work together to perform the life functions of the cell:

1. Nucleus and ribosomes

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2. Endoplasmic reticulum and Golgi bodies

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3. Endoplasmic reticulum and ribosomes

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4. Golgi bodies and lysosomes

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Note Set 11

5. Nucleus and endoplasmic reticulum

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6. Endoplasmic reticulum and Golgi bodies and vesicles

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7. Endoplasmic reticulum and cell membrane

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**END OF CHAPTER 4 MULTIPLE CHOICE**

1. Which structure is present in both prokaryotic cells and eukaryotic plant cells?
  - A) Chloroplasts
  - B) Cell wall
  - C) Nucleus
  - D) Mitochondria
  - E) Microtubules
  
2. The major factor limiting cell size is the
  - A) concentration of water in the cytoplasm.
  - B) need for energy.
  - C) presence of membrane-enclosed organelles.
  - D) ratio of surface area to volume.
  - E) composition of the plasma membrane.
  
3. Which statement about mitochondria is not true?
  - A) The inner mitochondrial membrane folds to form cristae.
  - B) Mitochondria are usually 1  $\mu$ m or smaller in diameter.
  - C) Mitochondria are green because they contain chlorophyll.
  - D) Fuel molecules from the cytosol are oxidized in mitochondria.
  - E) ATP is synthesized in mitochondria.
  
4. Which statement about plastids is true?
  - A) They are found in prokaryotes.
  - B) They are surrounded by a single membrane.
  - C) They are the sites of cellular respiration.
  - D) They are found only in fungi.
  - E) They contain several types of pigments or polysaccharides.
  
5. If all the lysosomes within a cell suddenly ruptured, what would be the most likely result?
  - A) The macromolecules in the cytosol would begin to break down.
  - B) More proteins would be made.
  - C) The DNA within mitochondria would break down.
  - D) The mitochondria and chloroplasts would divide.
  - E) There would be no change in cell function.

6. The Golgi apparatus
  - A) is found only in animals.
  - B) is found in prokaryotes.
  - C) is the appendage that moves a cell around in its environment.
  - D) is a site of rapid ATP production.
  - E) modifies and packages proteins.
  
7. Which organelle is not surrounded by one or more membranes?
  - A) Ribosome
  - B) Chloroplast
  - C) Mitochondrion
  - D) Peroxisome
  - E) Vacuole
  
8. The cytoskeleton consists of
  - A) cilia, flagella, and microfilaments.
  - B) cilia, microtubules, and microfilaments.
  - C) internal cell walls.
  - D) microtubules, intermediate filaments, and microfilaments.
  - E) calcified microtubules.
  
9. Microfilaments
  - A) are composed of polysaccharides.
  - B) are composed of actin.
  - C) allow cilia and flagella to move.
  - D) make up the spindle that aids the movement of chromosomes.
  - E) maintain the position of the chloroplast in the cell.
  
10. Which statement about the plant cell wall is not true?
  - A) Its principal chemical components are polysaccharides.
  - B) It lies outside the plasma membrane.
  - C) It provides support for the cell.
  - D) It completely isolates adjacent cells from one another.
  - E) It is semirigid.