

Name: _____ Date: _____

Squishy Science: Mapping the 9th Grade Micro-Metropolis

Examine how cellular components drive essential life processes through basic recall and identification of specific organelle systems.

1. Which specific organelle acts as the 'packaging center,' modifying proteins after they leave the Endoplasmic Reticulum?

- A. Lysosome
- B. Golgi Apparatus
- C. Vacuole
- D. Ribosome

2. The cell membrane is a rigid, solid wall that prevents all movement into and out of the cell.

- A. True
- B. False

3. The _____ is frequently called the 'control center' because it contains the genetic blueprints of the cell.

- A. Mitochondria
- B. Nucleus
- C. Cytoplasm
- D. Nucleolus

4. If a muscle cell requires a massive amount of energy to facilitate movement, which organelle would you expect to find in high abundance?

- A. Ribosomes
- B. Chloroplasts
- C. Mitochondria
- D. Lysosomes

5. Ribosomes are the primary site for protein synthesis within both prokaryotic and eukaryotic cells.

- A. True
- B. False

6. The process of _____ involves the cell releasing waste materials through the membrane to maintain internal balance.

- A. Excretion
- B. Ingestion
- C. Conductivity
- D. Respiration

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7. Which organelle is studded with ribosomes and helps transport newly made proteins?

- A. Smooth ER
- B. Rough ER
- C. Lysosome
- D. Centriole

8. Lysosomes are known as 'suicide sacs' because they contain digestive enzymes that break down old cell parts.

- A. True
- B. False

9. In the context of cellular functions, what does 'conductivity' refer to?

- A. Moving the entire cell from place to place
- B. The ability to pass electrical signals along a surface
- C. Destroying harmful bacteria
- D. Absorbing sunlight for energy

10. The ____ Endoplasmic Reticulum is primarily involved in the synthesis of lipids and the detoxification of chemicals.

- A. Rough
- B. Hard
- C. Smooth
- D. Granular