

Plant And Animal Cell Quiz Questions and Answers PDF

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What structure do animal cells use for movement?

- Chloroplasts
- Cilia and Flagella ✓
- Plasmodesmata
- Central Vacuole

Animal cells use structures called flagella and cilia for movement. These are hair-like projections that can propel the cell through its environment or move substances along the cell surface.

Which of the following are found in both plant and animal cells? (Select all that apply)

- Nucleus ✓
- Chloroplasts
- mitochondria ✓
- Cell Wall

Both plant and animal cells share several common organelles, including the nucleus, mitochondria, and endoplasmic reticulum, which are essential for various cellular functions.

Which structures are unique to plant cells? (Select all that apply)

- Central Vacuole ✓
- Centrioles
- Chloroplasts ✓
- Plasmodesmata ✓

Plant cells have unique structures that distinguish them from animal cells, including cell walls, chloroplasts, and large central vacuoles. These components are essential for processes like photosynthesis and maintaining cell structure.

Which organelles are involved in energy production? (Select all that apply)

- Chloroplasts** ✓
- mitochondria** ✓
- Ribosomes
- Lysosomes

The primary organelles involved in energy production are mitochondria and chloroplasts. Mitochondria generate ATP through cellular respiration, while chloroplasts are responsible for photosynthesis in plant cells.

Which of the following are involved in cellular transport? (Select all that apply)

- Cell Membrane** ✓
- Plasmodesmata** ✓
- mitochondria
- Smooth ER

Cellular transport involves various mechanisms and components, including passive transport, active transport, and transport proteins such as channels and carriers. These processes are essential for maintaining homeostasis and facilitating the movement of substances across cell membranes.

Which structure is found only in plant cells and not in animal cells?

- Cell membrane
- Nucleus
- Cell wall** ✓
- Lysosomes

Plant cells contain structures called chloroplasts, which are responsible for photosynthesis and are not found in animal cells. Additionally, plant cells have a rigid cell wall that provides structural support, which is also absent in animal cells.

What is the role of ribosomes in the cell?

- Photosynthesis
- Protein synthesis** ✓
- Lipid storage
- DNA replication

Ribosomes are essential cellular structures that synthesize proteins by translating messenger RNA (mRNA) into polypeptide chains, which then fold into functional proteins. They play a critical role in the expression of genes and the overall functioning of the cell.

Which organelle is primarily involved in detoxification processes?

- Rough ER
- Smooth ER ✓**
- Golgi Apparatus
- Lysosomes

The smooth endoplasmic reticulum (SER) is the organelle primarily involved in detoxification processes, as it helps metabolize drugs and toxins in the cell.

Which organelle is known as the powerhouse of the cell?

- Nucleus
- Chloroplast
- mitochondria ✓**
- Endoplasmic Reticulum

The mitochondrION is often referred to as the powerhouse of the cell because it is responsible for producing adenosine triphosphate (ATP), the energy currency of the cell. This organelle plays a crucial role in cellular respiration and energy metabolism.

What functions are associated with the Golgi Apparatus? (Select all that apply)

- Modifying proteins ✓**
- Photosynthesis
- Packaging lipids ✓**
- DNA replication

The Golgi Apparatus is primarily involved in modifying, sorting, and packaging proteins and lipids for secretion or delivery to other organelles. It plays a crucial role in the post-translational modification of proteins and the formation of lysosomes.

What is the primary component of the plant cell wall?

- Protein
- Lipid
- Cellulose ✓**
- Starch

The primary component of the plant cell wall is cellulose, which provides structural support and rigidity to the cell. Cellulose is a polysaccharide made up of glucose units and is crucial for maintaining the plant's

shape and integrity.

Which organelles are involved in protein synthesis and processing? (Select all that apply)

- Ribosomes ✓**
- Golgi Apparatus ✓**
- Lysosomes
- Rough ER ✓**

The organelles involved in protein synthesis and processing include ribosomes, the endoplasmic reticulum, and the Golgi apparatus. These structures work together to translate genetic information into functional proteins and modify them for their specific roles.

Which organelle is responsible for photosynthesis in plant cells?

- mitochondria
- Chloroplasts ✓**
- Ribosomes
- Golgi Apparatus

The organelle responsible for photosynthesis in plant cells is the chloroplast. Chloroplasts contain chlorophyll, which captures light energy to convert carbon dioxide and water into glucose and oxygen.

What is the primary function of the nucleus in both plant and animal cells?

- Protein synthesis
- Energy production
- Genetic material storage ✓**
- Lipid synthesis

The nucleus serves as the control center of the cell, housing the cell's genetic material and regulating gene expression and cell division.