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| **Structure & Function of Organelles** | |
| **Directions:** Identify the cell organelle that is described in the statement. Some organelles may be used more than once. | |
| **Word Bank:**   |  |  |  |  | | --- | --- | --- | --- | | * Cell Membrane | * Nuclear Envelope | * Golgi Apparatus | * Central Vacuole | | * ER | * Mitochondria | * Chloroplasts | * Microtubules | | * Nucleus | * Lysosomes | * Ribosomes | * Centrioles | | * Nucleolus | * Vacuole | * Cytoplasm | * Cell Wall | | |
|  | 1. Substances such as proteins are transported within the cell through this cellular “highway” |
|  | 1. Contains digestive enzymes |
|  | 1. Composed of a phospholipid bilayer and embedded proteins |
|  | 1. May appear green due to chlorophyll |
|  | 1. Cylinder-shaped, come in a pair |
|  | 1. Contains the genes that control the functions of the cell |
|  | 1. Portion of the cell where all organelles are suspended |
|  | 1. 3 parts found only in PLANT cells |
|  | 1. Site of protein synthesis |
|  | 1. There are more of these organelles than any other |
|  | 1. Cells that require a lot of energy (i.e. muscle) have many of these |
|  | 1. Damaged or old parts of the cell are broken down here |
|  | 1. Its surface may be covered with ribosomes |
|  | 1. In plant cells, it is made of a carbohydrate called cellulose |
|  | 1. A prokaryote lacks this control center |
|  | 1. Compose the skeleton of a cell |
|  | 1. Involved in cell division (mitosis) |
|  | 1. Excess water can be stored in this organelle |
|  | 1. Controls the passage of materials into and out of the cell |
|  | 1. The fluid portion is called the cytosol |
|  | 1. Stack of membranes that finalize proteins and package them for transport |
|  | 1. Strengthens and supports a plant cell |
|  | 1. Surrounds the nucleus |
|  | 1. Chromosomes with DNA are found here |
|  | 1. Outermost boundary of an animal cell |
|  | 1. Nicknamed the “powerhouse” of the cell |
|  | 1. Where ribosomes are made, the nucleus may have more than one of these |
|  | 1. May store water, waste, and food |
|  | 1. These tiny organelles have their own RNA |
|  | 1. These organelles have their own DNA (there are 2) |
| **Diagnostic Test: Cell Organelles** | |
| **Multiple Choice: Choose the best answer for each of the questions below.**   |  |  | | --- | --- | | 1. Cells that do not have a distinct nucleus are called… 2. Eukaryotic 3. Prokaryotic 4. Multicellular | 1. Small organelles that are responsible for protein synthesis are… 2. Ribosomes 3. RNA 4. Genes | | 1. Cells that have internal membranes surrounding their specialized organelles are… 2. Eukaryotic 3. Prokaryotic 4. Unicellular | 1. The system of membranes which transport proteins through the cell is the… 2. Golgi Body 3. Ribosome 4. Endoplasmic Reticulum | | 1. The controlling organelle within a cell is the… 2. Nucleolus 3. Gene 4. Nucleus | 1. The organelles responsible for collecting, sorting, processing, & distributing carbs & proteins are the… 2. Golgi bodies 3. Ribosomes 4. Plastids | | 1. The nucleolus is made of single stranded nucleic acids called… 2. DNA 3. RNA 4. ATP | 1. The organelle found in both plants & animals which stores dissolved nutrients is the… 2. Vacuole 3. Cytoplasm 4. Centriole | | 1. The jellylike fluid that contains macromolecules and suspends organelles in a cell is the… 2. Cytoplasm 3. Vacuole 4. Nucleus | 1. The “powerhouse” of the cell that generates energy-rich ATP molecules is the… 2. Mitochondrion 3. Chloroplast 4. Nucleus | | |
| **True/False:** If the statement is correct, write “true.” If the statement is incorrect, write “false” & correct the statement.   |  |  | | --- | --- | | 1. The mitochondrion is responsible for **photosynthesis**. |  | | 1. **Chloroplasts** contain green chlorophyll & are responsible for photosynthesis. |  | | 1. All cells have a **cell wall** but only plant cells have a **cell membrane**. |  | | 1. **Metabolism** is all of the chemical reactions occurring in an organism. |  | | 1. An **electron microscope** can be used to view cell organelles. |  | | |
| **Short-Answer**   1. What are the main differences between plant and animal cells? 2. What organic macromolecules are found in the cytoplasm? 3. List the 8 levels of organization from smallest to largest. 4. What is the main difference between prokaryotes and eukaryotes? 5. How has technology advanced our knowledge of cells? | |