|  |  |  |  |
| --- | --- | --- | --- |
| Organelle | Description | Function | Animal, Plant or Both |
| CELL WALL |  |  |  |
| CELL MEMBRANE |  |  |  |
| CYTOPLASM |  |  |  |
| NUCLEUS |  |  |  |
| NUCLEAR MEMBRANE |  |  |  |
| NUCLELOUS |  |  |  |
| CHROMATIN |  |  |  |
| ENDOPLASMIC RETICULUM |  |  |  |
| RIBOSOME |  |  |  |
| MITOCHONDRIA |  |  |  |
| VACUOLE |  |  |  |
| CHLOROPLAST |  |  |  |
| GOLGI BODY |  |  |  |
| LYOSOME |  |  |  |
| CENTRIOLE |  |  |  |

**Cell Organelles Worksheet**

Complete the following table by writing the name of the cellorganelle in the right hand column that matches the structure/function in the left hand column.

|  |  |
| --- | --- |
| **Structure/Function** | **Cell Part** |
| Stores material within the cell |  |
| The sites of protein synthesis |  |
| Organelle that manages or controls all the cell functions in a eukaryotic cell |  |
| Contains chlorophyll, a green pigment that traps energy from sunlight and gives plants their green color |  |
| Digests excess or worn-out cell parts, food particles and invading viruses or bacteria |  |
| Surrounds the nucleus and controls what enters and exits the nucleus |  |
| Firm, protective structure that gives the cell its shape in plants, fungi, most bacteria and some protests |  |
| Produces a usable form of energy for the cell |  |
| Packages proteins for transport out of the cell |  |
| Assembles some components of the cell membrane; synthesizes lipids |  |
| Site where ribosomes are made |  |
| Provides support for the cell and controls what goes in and out of the cell |  |
| Consist of hollow tubes which provide support for the cell and tracks for organelles to move on |  |
| Jelly-like fluid inside the cell membrane |  |
| Assembles some components of the cell membrane; modifies proteins; has ribosomes attached to it |  |
| Small organelle that assists with cell division |  |

Put a check in the appropriate column(s) to indicate whether the following organelles are found in plant cells, animal cells or both.

| Organelle | Plant Cells | Animal Cells |
| --- | --- | --- |
| Cell Wall |  |  |
| Centrioles |  |  |
| Chloroplast |  |  |
| Smooth Endoplasmic Reticulum |  |  |
| Cytoplasm |  |  |
| Microtubules |  |  |
| Rough Endoplasmic Reticulum |  |  |
| Golgi apparatus |  |  |
| Lysosome |  |  |
| Mitochondria |  |  |
| Nucleolus |  |  |
| Nucleus |  |  |
| Nuclear membrane |  |  |
| Cell membrane |  |  |
| Central vacuole |  |  |
| Ribosome |  |  |
| Vacuole |  |  |

* What is the main difference between prokaryotes and eukaryotes?
* Are bacteria PROKARYOTES or EUKARYOTES?
* Are fungi, plants, and animals PROKARYOTES or EUKARYOTES?
* What are two organelles that all cells (prokaryotes AND eukaryotes) have?
* Fill in the blank. The Cell Theory states:
1. All \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ things are composed of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. \_\_\_\_\_\_\_\_\_\_\_\_ are the basic unit of structure and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in living things.
3. New cells are created from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Cell City Analogy**

In a far away city called Grant City, the main export and production product is the steel widget. Everyone in the town has something to do with steel widget making and the entire town is designed to build and export widgets. The town hall has the instructions for widget making, widgets come in all shapes and sizes and any citizen of Grant can get the instructions and begin making their own widgets. Widgets are generally produced in small shops around the city, these small shops can be built by the carpenter's union (whose headquarters are in town hall).

After the widget is constructed, they are placed on special carts which can deliver the widget anywhere in the city. In order for a widget to be exported, the carts take the widget to the postal office, where the widgets are packaged and labeled for export. Sometimes widgets don't turn out right, and the "rejects" are sent to the scrap yard where they are broken down for parts or destroyed altogether. The town powers the widget shops and carts from a hydraulic dam that is in the city. The entire city is enclosed by a large wooden fence, only the postal trucks (and citizens with proper passports) are allowed outside the city.

Match the parts of the city (underlined) with the parts of the cell.

|  |  |
| --- | --- |
| 1. Mitochondria | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. Ribosomes | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. Nucleus | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. Endoplasmic Reticulum | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. Golgi Apparatus | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. Protein | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. Cell Membrane | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. Lysosomes | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. Nucleolus | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |