**City Parts/Functions Cards**

**Blackline Master #1**

|  |  |
| --- | --- |
| **The main office that sends out instructions to run the city and controls its day-to-day operations** | **City Hall** |
| **The instructions on how to build the different buildings and structures throughout the city.** | **Blueprints** |
| **High level executive with an office within city hall that directs city hall and all of its plans.** | **The Mayor** |
| **Transported around the city to build buildings and structures.** | **Boxes of Bricks** |
| **Gets rid of the city’s trash and recycling** | **Landfill/Recycling Center** |
| **Takes the finished products of the city and sends them to their final destination** | **Trucks** |
| **Capture sunlight and turn it into usable energy for the city** | **Solar Power Plant** |
| **Holds excess water and food to be used later in different parts of the city** | **Local Food Bank** |
| **Pathways to haul materials around town and to construction sites** | **Roadways** |
| **Security that allows things into and out of the city.** | **Border Control** |
| **The central location in the city that holds excess water and food to be used later in different parts of the city.** | **City Food Bank** |
| **The dividing line between what is within the city and what is outside the city.** | **City Boundary** |
| **Empty space within the city where new buildings could be built or maybe a park could be established.**  | **Open Land** |
| **Complex in the city where fuel is burned to provide power for the city.**  | **Coal Power Plant** |
| **Material that can build structures or hold them in place.** | **Cement** |

**Cell Parts/Functions Cards**

**Blackline Master #2**

|  |  |
| --- | --- |
| **Nucleus** | **Holds instructions that builds and controls the cell and its functions** |
| **Chromatin (DNA)** | **Blueprints for building a cell** |
| **Nucleolus** | **Controls the activity within the nucleus and holds the DNA.**  |
| **Ribosomes** | **Place in the cell where proteins are produced** |
| **Endoplasmic Reticulum** | **Provides a pathway to transport molecules and particles throughout the cell** |
| **Golgi Apparatus** | **Collects and moves molecules and particles and sends them around the cell or out of the cell.**  |
| **Chloroplast** | **Captures sunlight and turns it into carbohydrates (chemical energy) for a plant cell to use (by photosynthesis)** |
| **Vacuole** | **Large sac that holds excess water, materials, and waste products** |
| **Plasma Membrane** | **Boundary around all cells that controls what goes into and out of the cell and keeps some things in while leaving other things out** |
| **Vesicles** | **Several small membrane sacs that store materials and waste products within animal cells**  |
| **Cytoskeleton (microtubules and microfilaments)** | **System of protein fibers and tubules that provide shape to the cell, anchor organelles, and allow for movement of the cell** |
| **Lysosome** | **Vacuole that contains digestive enzymes that breakdown wastes and worn-out cell parts** |
| **Cytoplasm** | **Jelly-like substance that surrounds and cushions organelles and provides shape to the cell** |
| **Mitochondria** | **Breaks down food molecules to release energy for the cell to use (by cellular respiration)** |
| **Cell Wall** | **Rigid barrier that provides extra support for all cells EXCEPT animal and protozoan cells** |

**Blackline Master #3**

**Cell Analogy Evaluation Sheet**

|  |  |  |
| --- | --- | --- |
| **Group:** |  | **Group:** |
|  |
| **Cell type: Plant or Animal** |  | **Cell type: Plant or Animal** |
|  | **Cell Structure** | **On Poster and Presented** | **On Poster, but not mentioned** | **Missing Entirely from Both** |  |  | **Cell Structure** | **On Poster and Presented** | **On Poster, but not mentioned** | **Missing Entirely from Both** |
|  |
|  |
|  |
| 1 | **Membrane**  | **2** | **1** | **0** |  | 1 | **Membrane**  | **2** | **1** | **0** |
| 2 | **Cytoplasm** | **2** | **1** | **0** |  | 2 | **Cytoplasm** | **2** | **1** | **0** |
| 3 | **Nucleus** | **2** | **1** | **0** |  | 3 | **Nucleus** | **2** | **1** | **0** |
| 4 | **Chromatin** | **2** | **1** | **0** |  | 4 | **Chromatin** | **2** | **1** | **0** |
| 5 | **Nucleolus** | **2** | **1** | **0** |  | 5 | **Nucleolus** | **2** | **1** | **0** |
| 6 | **Ribosome** | **2** | **1** | **0** |  | 6 | **Ribosome** | **2** | **1** | **0** |
| 7 | **ER** | **2** | **1** | **0** |  | 7 | **ER** | **2** | **1** | **0** |
| 8 | **Golgi** | **2** | **1** | **0** |  | 8 | **Golgi** | **2** | **1** | **0** |
| 9 | **Mitochondria** | **2** | **1** | **0** |  | 9 | **Mitochondria** | **2** | **1** | **0** |
| 10 | **Cell Wall (plant only)** | **2** | **1** | **0 or N/A**  |  | 10 | **Cell Wall (plant only)** | **2** | **1** | **0 or N/A**  |
| 11 | **Central Vacuole (plant only)** | **2** | **1** | **0 or N/A**  |  | 11 | **Central Vacuole (plant only)** | **2** | **1** | **0 or N/A**  |
| 12 | **Chloroplast (plant only)** | **2** | **1** | **0 or N/A**  |  | 12 | **Chloroplast (plant only)** | **2** | **1** | **0 or N/A**  |
| 13 | **Lysosome (animal only)** | **2** | **1** | **0 or N/A**  |  | 13 | **Lysosome (animal only)** | **2** | **1** | **0 or N/A**  |
| 14 | **Vacuoles (animal only)** | **2** | **1** | **0 or N/A**  |  | 14 | **Vacuoles (animal only)** | **2** | **1** | **0 or N/A**  |
| 15 | **Cytoskeleton (animal only)** | **2** | **1** | **0 or N/A**  |  | 15 | **Cytoskeleton (animal only)** | **2** | **1** | **0 or N/A**  |
|   | **Poster** | **Well Done /Complete** | **Acceptable** | **Missing** |  |   | **Poster** | **Well Done /Complete** | **Acceptable** | **Missing** |
|   | **Creativity** | **2** | **1** | **- - - - - - -**  |  |   | **Creativity** | **2** | **1** | **- - - - - - - -** |
|   | **Color** | **2** | **1** | **0** |  |   | **Color** | **2** | **1** | **0** |
|   | **Labels/Key** | **2** | **1** | **0** |  |   | **Labels/Key** | **2** | **1** | **0** |
|   | **Completed**  | **2** | **1** | **0** |  |   | **Completed**  | **2** | **1** | **0** |
|  | **Score** | **/32** |  |  |  |  | **Score** | **/32** |  |  |

**Blackline Master #4**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student No. \_\_\_\_\_\_\_\_\_\_\_

**Checking for Understanding: Cell Structure and Function**

|  |  |
| --- | --- |
| \_\_\_\_1. | Which organelle is correctly paired with its specific function? *(SC.912.L14.3)* |
|  |

|  |  |
| --- | --- |
| A. | Vacuole - production of ATP. |
| B. | Cell membrane – synthesis of proteins. |
| C. | Chloroplast - transport of materials. |
| D. | Nucleus – stores genetic information. |

 |
| \_\_\_\_2. | A student prepared the following list of characteristics about a cellular organelle.* Present in animal cells
* Present in plant cells
* Helps make energy available to the cell

**Which of the following cellular structures is the student describing?** *(SC.912.L14.3)* |
|  |

|  |  |
| --- | --- |
| A. | Nucleus |
| B. | Cell Wall |
| C. | Chloroplast |
| D. | Mitochondria |

 |

\_\_\_\_3. A cell has a defect that results in the loss of its ability to regulate the passage of water, food, and wastes into and out of the cell. In which of the following cell structures is this defect most likely to be located? *(SC.912.L14.3)*

1. Ribosomes
2. Chloroplasts
3. Cell membrane
4. Endoplasmic Reticulum

\_\_\_\_4. A scientist wants to study photosynthesis in a newly discovered species. He discovered this new organism using the reactants carbon dioxide and water to produce oxygen and glucose. The scientist justified his study saying it was the role of what organelle? *(SC.912.L14.3)*

1. Vacuole
2. Ribosome
3. Chloroplast
4. Mitochondria

\_\_\_5. The pictures to the right show two different models of cells.

**Which of the following statements explains why these models would be useful in learning about cells in science?** *(SC.912.N.3.5)*

1. These models both make the cells larger so that they can be studied by the naked eye.
2. These models both make the cells smaller so that they can be studied by the naked eye.
3. These models both accurately show the size and shape of the organelles so that they can be studied.
4. These models both accurately show the way that the organelles work together in the cell so that their processes can be studied.

**Blackline Master #5**

**Check for Understanding Cell Structure and Function Answer Key**

|  |  |
| --- | --- |
| \_\_**D**\_\_1. | Which organelle is correctly paired with its specific function? (SC.912.L14.3) |
| \_\_**D**\_\_2. | A student prepared the following list of characteristics about a cellular organelle.* Present in animal cells
* Present in plant cells
* Helps make energy available to the cell

Which of the following cellular structures is the student describing? (SC.912.L14.3) |

\_\_**C**\_\_3. A cell has a defect that results in the loss of its ability to regulate the passage of water, food, and wastes into and out of the cell. In which of the following cell structures is this defect most likely to be located? (SC.912.L14.3)

\_\_**C**\_\_4. A scientist wants to study photosynthesis in a newly discovered species. He discovered this new organism using the reactants carbon dioxide and water to produce oxygen and glucose. The scientist justified his study saying it was the role of what organelle? (SC.912.L14.3)

\_A\_\_5. The pictures to the right show two different models of cells.

Which of the following statements explains why these models would be useful in learning about cells in science? *(SC.912.N.3.5)*