Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

**Animal vs. Plant Cells Simulation**

**Directions:** Go to the following link and complete the questions. <http://sepuplhs.org/high/sgi/teachers/cell_sim.html>

Click on the “start” button and then click “continue” to get started. Read the directions as you go and answer the following questions by reading about each organelle before you use it in the cell and when you click on it within the cell.

1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a fluid structure that serves as a boundary between the cell and its external environment.
2. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the area between the nucleus and the cell membrane.
3. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ aids in the production of ribosomes.
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are filled with enzymes that digest such substances as food particles, damaged organelles or microbes.
5. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ carries proteins and lipids from the Golgi Apparatus to other cell compartments.
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ carry proteins and other materials to the cell membrane, where they are released to the outside of the cell.
7. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ moves structures within the cell and helps cells divide during mitosis.
8. The three main kinds of fiber that make up a cell’s cytoskeleton are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the site of aerobic cellular respiration.
10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a series of reactions that convert the energy in sugar into small molecules of ATP.
11. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are in the cytoplasm unattached to membranes, and produce proteins that function within the cytoplasm.
12. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ modifies and sorts proteins and lipids that have been synthesized with the cell.
13. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is involved in the production of lipids and proteins that will either become part of the cell’s membrane or be released from the cell.
14. Some \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ near the nucleus have ribosomes attached.
15. In addition to a cell membrane, plants, algae, bacteria and fungi have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that provides support and protection outside the cell membrane.
16. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are especially important in plant cells for the storage of substances and for breaking down cell wastes.
17. A plant cell usually has a single, large, central vacuole that can take up to \_\_\_\_\_\_\_\_\_\_\_\_ of the cell’s volume.
18. During photosynthesis the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ uses the sun’s energy, water and carbon dioxide to produce sugars and oxygen.
19. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a pigment that gives chloroplasts its green color.

**Directions:** Use the simulation to check and fill in the Venn diagram with the appropriate organelles.

 **Unique to Animal Cells Similar Unique to Plant Cells**

