

NAME \_\_\_\_\_

**The Virtual Cell Worksheet**

1. 1. **Centrioles** are only found in \_\_\_\_\_ cells. They function in cell \_\_\_\_\_. They have \_\_\_\_\_ groups of \_\_\_\_\_ arrangement of the protein fibers. Draw a picture of a centriole in the box.
2. **Lysosomes** are called \_\_\_\_\_ sacks. They are produced by the \_\_\_\_\_ body. They consist of a single membrane surrounding powerful \_\_\_\_\_ enzymes. Those lumpy brown structures are digestive \_\_\_\_\_. They help protect you by \_\_\_\_\_ the bacteria that your white blood cells engulf. \_\_\_\_\_ act as a clean up crew for the cell. Zoom in and draw what you see.
2. 3. **Chloroplasts** are the site of \_\_\_\_\_. They consist of a \_\_\_\_\_ membrane. The stacks of disk like structures are called the \_\_\_\_\_. The membranes connecting them are the \_\_\_\_\_ membranes. Zoom in and draw a picture.
3. 4. **Mitochondrion** is the \_\_\_\_\_ of the cell. It is the site of \_\_\_\_\_. It has a \_\_\_\_\_ membrane. The inner membrane is where most \_\_\_\_\_ respiration occurs. The inner membranes is \_\_\_\_\_ with a very large surface area. These ruffles are called \_\_\_\_\_. Mitochondria have their own \_\_\_\_\_ and manufacture some of their own \_\_\_\_\_. Draw a picture of the mitochondrion with its membrane cut.
5. **Endoplasmic Reticulum (ER)** is a series of double membranes that \_\_\_\_\_ back and forth between the cell membrane and the \_\_\_\_\_. These membranes fill the \_\_\_\_\_ but you cannot see them because they are very \_\_\_\_\_. The rough E.R. has \_\_\_\_\_ attached to it. This gives it its texture. These ribosomes manufacture \_\_\_\_\_ for the cell. The ribosomes are the \_\_\_\_\_ which manufacture proteins. Draw the rough ER with a ribosome.
4. 6. **Smooth E.R.** \_\_\_\_\_ ribosomes. It acts as a \_\_\_\_\_ throughout the cytoplasm. It runs from the cell membrane to the nuclear \_\_\_\_\_ and throughout the rest of the cell. It also produces \_\_\_\_\_ for the cell. Draw a picture of the smooth ER.
5. 7. **Cell Membrane** performs a number of critical functions for the \_\_\_\_\_. It regulates all that \_\_\_\_\_ and leaves the cell; in multicellular organisms it allows \_\_\_\_\_ recognition. Draw and shade the cell membrane.
6. 8. **Nucleus** is called the \_\_\_\_\_ of the cell. It is a large \_\_\_\_\_ spot in eukaryotic cells. It \_\_\_\_\_ all cell activity. The nuclear membrane has many \_\_\_\_\_. The thick ropy strands are the \_\_\_\_\_. The large solid spot is the \_\_\_\_\_. The nucleolus is a spot of \_\_\_\_\_ chromatin. It manufactures \_\_\_\_\_. The chromatin is \_\_\_\_\_ in its active form. It is a \_\_\_\_\_ of DNA and histone proteins. It stores the information needed for the manufacture of \_\_\_\_\_. Draw a picture of the nucleus and its nucleolus.
7. **Golgi Body** is responsible for packaging \_\_\_\_\_ for the cell. Once the proteins are produced by the \_\_\_\_\_ E.R., they pass into the \_\_\_\_\_ like cisternae that are the main part of the Golgi body. These proteins are then squeezed off into the little \_\_\_\_\_ which drift off into the cytoplasm. Draw a picture of the Golgi Body as it expelling a protein.

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| <b>Centriole</b>                  |
| <b>Lysosomes</b>                  |
| <b>Chloroplasts</b>               |
| <b>Mitochondrion</b>              |
| <b>Endoplasmic Reticulum (ER)</b> |
| <b>Smooth ER</b>                  |
| <b>Cell Membrane</b>              |
| <b>Nucleolus</b>                  |
| <b>Golgi Body</b>                 |