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.

Centriole
Lysosomes
Chloroplasts
Mitochondrion
Endoplasmic Reticulum (ER)
Smooth ER
Cell Membrane
Nucleolus
Golgi Body