KEY

Name _____ **Hour** _____

***The Virtual Cell* Worksheet**

Directions: Go to Mrs. Sorensen's web-page and click on the Virtual Cell link. Find the answers to each question by exploring this website.

1. **Centrioles** are only found in _____ANIMAL_____ cells. They function in cell __DIVISION_____. They have __9___ groups of ___3__ arrangement of the protein fibers. Draw a picture of a centriole in the box.

Centriole

2. **Lysosomes** are called ___SUICIDE_____ sacks. They are produced by the _GOLGI_____ body. They consist of a single membrane surrounding powerful ___DIGESTIVE_____ enzymes. Those lumpy brown structures are digestive __ENZYMES_. They help protect you by _DISSOLVING_____ the bacteria that your white blood cells engulf. __LYSOSOMES_____ act as a clean up crew for the cell. Zoom in and draw what you see.

Lysosomes

3. **Chloroplasts** are the site of _PHOTOSYNTHESIS_____. They consists of a ___DOUBLE_____ membrane. The stacks of disk like structures are called the _GRANA_____. The membranes connecting them are the __THYLAKOID_____ membranes. Zoom in and draw a picture.

Chloroplasts

4. **Mitochondrion** is the __POWERHOUSE_____ of the cell. It is the site of __RESPIRATION_____. It has a __DOUBLE_____ membrane. The inner membrane is where most _AEROBIC_____ respiration occurs. The inner membranes are __FOLDED_____ with a very large surface area. These ruffles are called _CRISTAE_____. Mitochondria have their own ____DNA_ and manufacture some of their own _PROTEINS_____. Draw a picture of the mitochondrion with its membrane cut.

Mitochondrion

5. **Endoplasmic Reticulum (ER)** is a series of double membranes that ___LOOP____ back and forth between the cell membrane and the __NUCLEUS_____. These membranes fill the _CYTOPLASM_____ but you cannot see them because they are very __TRANSPARENT_____. The rough E.R. has ___RIBOSOMES_____ attached to it. This gives it its texture. These ribosomes manufacture _____PROTEIN_____ for the cell. The ribosomes are the _____ORGANELLE_____ which manufacture proteins. Draw the rough ER with a ribosome.

Endoplasmic Reticulum (ER)

6. **Smooth E.R**. ___LACKS_____ ribosomes. It acts as a ____PATHWAY_____ throughout the cytoplasm. It runs from the cell membrane to the nuclear ___MEMBRANE_____ and throughout the rest of the cell. It also produces _LIPIDS_____ for the cell. Draw a picture of the smooth ER.

Smooth ER