

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.
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.
3. **Chloroplasts** are the site of ___PHOTOSYNTHESIS_____. They consist 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.
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.
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.
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.

Centriole
Lysosomes
Chloroplasts
Mitochondrion
Endoplasmic Reticulum (ER)
Smooth ER