

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.

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| Centriole |
| Lysosomes |
| Chloroplasts |
| Mitochondrion |
| Endoplasmic Reticulum (ER) |
| Smooth ER |