

# 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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| <b>Centriole</b>                  |
| <b>Lysosomes</b>                  |
| <b>Chloroplasts</b>               |
| <b>Mitochondrion</b>              |
| <b>Endoplasmic Reticulum (ER)</b> |
| <b>Smooth ER</b>                  |