

Eukaryotic Cell Analogy Project

Purpose: To demonstrate your understanding of the parts of the eukaryotic cell, their functions, and the ways they work together to sustain the cell's life processes.

Description: The cell is the basic unit of life, and the life forms that you and I are most familiar with are composed of what we call **eukaryotic cells**.

So what is a **cell**? The most basic characteristics of a cell involve **DNA** and **ribosomes** enclosed within a **semipermeable cell membrane**.

So what is a eukaryotic cell? The most basic characteristics of a eukaryotic cell involve the **nucleus** (DNA enclosed within a **nuclear envelope**), ribosomes, and **organelles** (membrane-bound units that carry out specific tasks within the cell). All of these are enclosed within a semipermeable cell membrane.

Your task is to make an analogy between the eukaryotic cell and some other organization or institution (this can exist in real life or just in your imagination). In other words, **compare the eukaryotic cell to something you are familiar with in the larger world**. Your analogy can be any of your choosing; however, your analogy must be creative, and it must make sense.

Components: the components of your project must be as follows:

1. **a 2- or 3-dimensional model** of your analogy, made with materials of your choosing that you must obtain yourself.
2. **8 labels** that adequately introduce each part of your analogy, its function within your analogy, and how it compares to a part of the eukaryotic cell. The language you use between the two parts of your label should be parallel (see example below).

Your labels should follow the following general format:

Analogous part: analogous function
Cell organelle: organelle function

For example, if your analogy were of the cell as a restaurant:

The cook: makes the food
The ribosome: makes the protein

Did you notice the use of parallel language in this example?