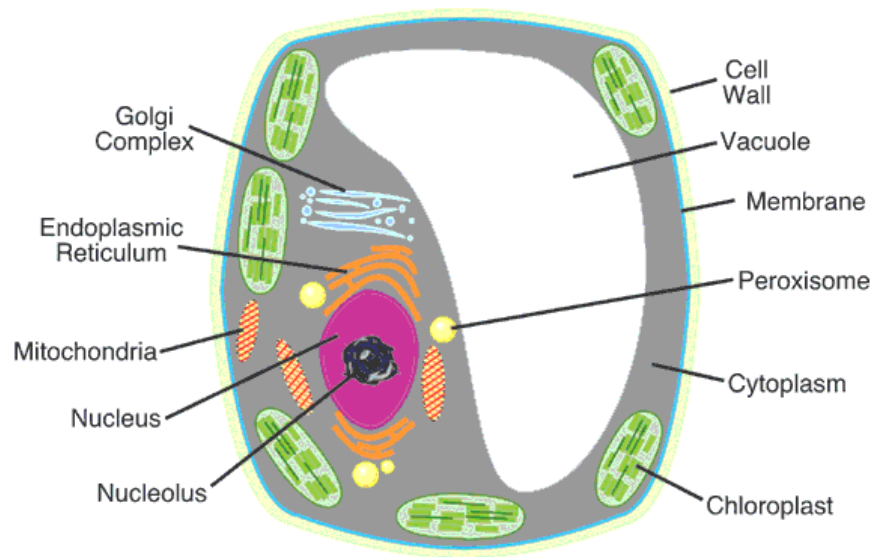


Incredible Edible Cell

Purpose: You will use several different food items representing the various organelles or cell structures found in plant and animal cells to construct an edible cell model. This activity will help you learn more about the different parts of a cell and their functions.

Background: All cells have a **cell membrane**, which forms a barrier to separate the cell from its environment.

The cell membrane surrounds a gel-like fluid called **cytoplasm**, which is the medium that holds all the organelles of the cell. The large **nucleus** of a cell is similar to your brain because it functions as the cell's control center. The nucleus contains genetic material that is used as instructions for directing cell functions. The "powerhouses" of the cell are the **mitochondria**, which convert food energy to usable energy. Water, food, and other materials are stored in **vacuoles**. **Lysosomes** are the clean-up crew of the cell- they contain chemicals that break down old cell parts so they can be used again.



Materials: Rice cake (animal cell), graham cracker (plant cell), frosting, plastic knife, Fruit by the Foot, jelly beans, sprinkles, peanut butter cups, licorice, raisins, marshmallows, M&M's, paper plates & bowls, plastic gloves

Procedures:

Do NOT eat any of the materials until given permission by Mrs. Oates!!

1. Label the edge of a paper plate with your group name and cell type (animal or plant).
2. If you are making an animal cell, use a rice cake base. If you are making a plant cell, use a graham cracker base.
3. Spread frosting evenly over the base to represent the cytoplasm.
4. Assemble your model by sticking the appropriate “organelles” into the “cytoplasm”.
5. Label pages 11 and 12 of your science notebook as “Incredible Edible Cell”.
6. Sketch and Label your diagram on page 11 of your notebook.
7. Copy the table provided on the board at the bottom of page 11 (move to page 12 if needed).
8. Answer the following Analysis Questions on page 12. Yes, you must write the questions.
9. When you are done, raise your hand and I will come take a photo of your cell and clear you to eat your “cell”.

Incredible Edible Cell Table:

Organelle/Structure	Food Item	Function
Cell Wall	Graham Cracker	
Cell Membrane	Fruit by the Foot	
Nucleus	Gumball	
Nuclear Membrane	Licorice Strings	
Cytoplasm	Frosting	
Mitochondria	Hot Tamales	
Vacuoles	Marshmallows	
Chloroplasts	Spearmint Candy	
Lysosomes	M&Ms	

Analysis Questions:

1. Given the function of mitochondria, what tissue might contain cells with a high concentration of mitochondria? Why?
2. Why could a cell be called “the functional unit of life?”
3. Why is it important to have a cell membrane when there is a cell wall?
4. How is the nucleus the “command center” of the cell?
5. What is the difference between structure and function?

