

Title: Cell and Cell Membrane Project

Purpose: to create a model of a plant or animal cell

Procedure:

1. Create a model of a quadrant (1/4) of a plant or animal cell.
2. Select the proper shape for the cell membrane.  
(animal: oval or round; plant: rectangular or square).
3. Include ALL organelles and transport required for your quadrant.
4. Use a key if necessary to identify each organelle (place outside of cell).
5. Label the cell type.
6. Write your names on an outer corner
7. Describe your model to your classmates.

Quadrant assignments

|   |   |
|---|---|
| 1 | 2 |
| 3 | 4 |

|   | Organelles Included/Labeled   | Physiology Included/Labeled  |
|---|---|--|
| 1 | Nucleus<br>Nucleolus<br>Nuclear membrane<br>Ribosome production<br>Cell membrane → Quadrant 1 outer edge          | Ribosomes leaving nucleus (diffusion)<br>Nucleotides diffusing into nucleus (sugar, base, phosphate)                     |
| 2 | Rough ER<br>Smooth ER<br>Cell membrane → Quadrant 2 outer edge  | Facilitated diffusion of amino acids through cell membrane   |
| 3 | Golgi apparatus<br>Vacuoles<br>Cell membrane → Quadrant 3 outer edge  | Exocytosis of protein produced in cell<br>Endocytosis of a polysaccharide  |
| 4 | Lysosomes or Chloroplasts<br>Centrioles (if animal cell)<br>Mitochondria<br>Cell membrane → Quadrant 4 outer edge | Osmosis of water into cell<br>Oxygen diffusion through lipid bi-layer<br>Active transport of ATP by Na <sup>+</sup> ions |

Project due by end of class!

