

TRANSPORT IN AND OUT OF CELLS

Objectives:

- Materials are exchanged between the cytoplasm and external cell environment across the plasma membrane by several different processes, some require energy, some do not..
- Describe the most recent version of the fluid mosaic model of membrane structure.
- Molecules moving to regions where they are less concentrated are moving down their concentration gradient.
- Random movement of like molecules or ions down a concentration gradient is called simple diffusion.
- When salt is dissolved in water, which is the solute and which is the solvent?
- Explain osmosis in terms of a differentially permeable membrane.
- Define tonicity and be able to use the terms isotonic, hypertonic, and hypotonic.

Terms to Define:

[Active transport](#)

[ATP](#)

[diffusion](#)

[endocytosis](#)

[exocytosis](#)

[fluid-mosaic](#) model

[homeostasis](#)

[hydrophilic](#)

[hydrophobic](#)

[hypertonic](#)

[hypotonic](#)

[isotonic](#)

[osmosis](#)

[passive transport](#)

[phagocytosis](#)

[vacuoles](#)

[vesicles](#)

Questions:

1. When water moves into a plant cell by osmosis, the internal turgor pressure developed pushes on the wall. What does this do to your understanding of a neglected houseplant?
2. How is active transport different from passive transport?
3. In what situations does active transport occur?
4. In what situations does passive transport occur?
5. Make a sketch and give an example of the following:
 - a. Diffusion
 - b. osmosis
 - c. Active transport
 - d. passive transport
6. Why is important for the cell membrane to be selectively permeable?
7. How do plant and animal cells differ?