Cell Function – Cells and their Environment

Molecules are always moving

Diffusion

- Movement of molecules from an area of _____________ to an area of _____________ (down a concentration gradient).
- Continues until ________________ is reached.

Concentration Gradient

100% - high

0% - lower

Cell Membranes are Semipermeable

- Let some molecules pass through and not others.
  - Small molecules ________________________________
  - Large molecules can’t pass through – ________________________________

Osmosis – A Special kind of Diffusion

- Diffusion of water across a selectively permeable membrane
- Cytoplasm is a solution of water and solutes (stuff dissolved in the water).
- Water moves into and out of cells because of the different concentrations of the solutes.
- Different kinds of cells react differently to osmosis, depending on the solution they are in:

  **Hypertonic Solution** – More water inside cell than outside

  **Iso-osmotic (isotonic)** - same concentration of water inside and outside of the cell

  **Hypotonic Solution** – more water outside cell than inside