Structure and Function of Life

*Cell Membrane, Cell Transport, Passive/Active Transport, Diffusion/Osmosis*

Standard 2 / Objective 4

# **Goals**:

* I can plan and carry out an investigation to determine how cells maintain stability within a range of changing conditions by the transport of materials across the cell membrane (cell transport).
* I can demonstrate how both large and small particles can pass through the cell membrane to maintain homeostasis.

**Lab Book:**

* Copious and Comprehensive Notes – Computer Interactives
  + Photosynthesis
  + Cellular Respiration
  + Fermentation
* Photosynthesis and Cellular Respiration Review – White Handout
* Initial Cell Membrane Model and Explanation/Reasoning
* Revised Cell Membrane Model and Explanation/Reasoning
  + Phospholipid Bi-layer
  + Hydrophobic vs. Hydrophilic Explanation
  + Embedded Protein Channels
  + How Various Molecules are Transported Across the Membrane
* Concept Map, Venn Diagram, Table, Etc.
  + Passive Transport
    - Concentration? Channel or gate required? Energy required?
  + Facilitated Passive Transport
    - Concentration? Channel or gate required? Energy required?
  + Active Transport
    - Concentration? Channel or gate required? Energy required?
* *Po-tah-to, Os-mah-to* Demonstration
  + Results and Explanation
* Definitions and Notes
  + Diffusion
  + Osmosis