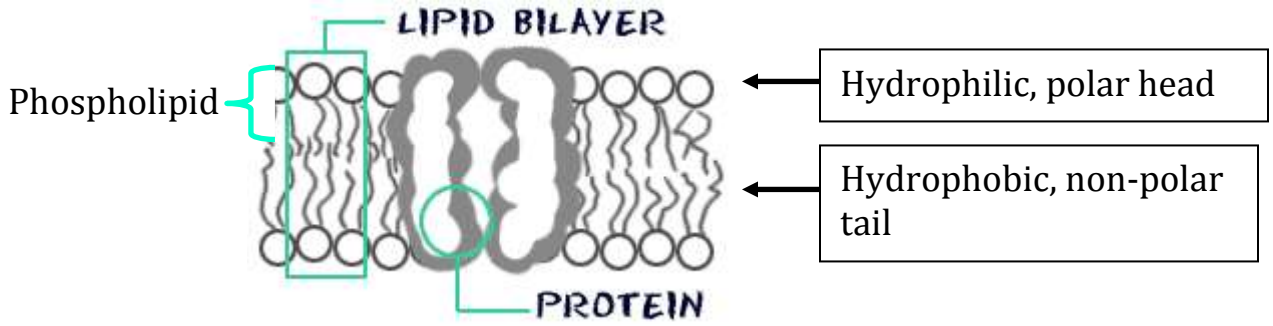
Cell Membrane

I. Structure: Phospholipid bilayer



II. Function: Selectively permeable; only some molecules can pass through

A. Small, non-polar molecules pass through

B. Passive Transport: does NOT require energy, moves from high to low concentrations
   a. Diffusion: molecules move from crowded to uncrowded areas (high -> low)
   b. Facilitated Diffusion: Diffusion through membrane proteins (high -> low)
      i. Osmosis: movement of water through AQUAPORINS from crowded to uncrowded areas (high -> low)

C. Active Transport: requires energy, moves from low to high concentrations
   a. Protein pumps: use ATP to move small molecules (low -> high)
   b. Endocytosis: Large molecules are taken into a cell by the membrane folding around them
   c. Exocytosis: Release of large molecules and waste products out of a cell by fusion of a vesicle with the cell membrane

III. Concentrations

A. Hypertonic: Higher solute concentration

B. Hypotonic: Lower solute concentration

C. Isotonic: Equal solute concentration