

Biology 12: Chapter 4- Review Worksheet Answer Key
Transport Across Plasma membrane

A. Plasma Membrane Structure and Function

- 1) Plasma membrane regulates **passage of molecules into and out of cell** → largely responsible for maintaining **cellular homeostasis**.
- 2) Fluid mosaic model = plasma membrane made of phospholipid bilayer w/ protein molecules partially/wholly embedded. Fluid consistency, proteins scattered in a mosaic pattern. Polar heads face outward b/c attracted to water.
- 3) The basic structure of the plasma membrane is determined by the lipid bilayer, but the various functions of the membrane are carried out by the plasma membrane proteins.
- 4) Amphipathic
- 5a) Phospholipids = abundant lipids, amphipathic, main fabric of PM, fluid bilayer
Membrane Proteins = also amphipathic, determine most of PM's specific functions
- b) Cholesterol = stiffens and strengthens PM, helps regulate its fluidity.
- 6) Peripheral = partially embedded in bilayer, held in place by cytoskeleton filaments
Integral = mostly/**fully** embedded in bilayer, can move laterally, also held in place by cytoskeleton filaments
- 7) Channel = proteins have a channel through which an ion or molecule can simply move across the membrane.
Carrier = protein combines with substance and helps it move across membrane.
Receptors = each receptor has specific shape which allows particular molecule to bind to it.
Enzymatic = carry out metabolic reactions
Cell recognition = facilitates adhesion between cells, reception of signal molecules, cell-cell recognition, protects cell with "sugar coat" (glycocalyx).
- 8) Glycocalyx = carbohydrate chains of cell recognition proteins; protects cell, facilitates adhesion between cells, reception of signal molecules, cell-cell recognition.
- 9) Small non-charged, lipid-soluble substance is easier to cross a PM because