**Chemistry, Lipids, Cell Membrane and Transport Review Sheet**

**Be able to answer the following questions, and explain the following concepts**

This review is **for you**. I suggest answering all of these questions, and researching these topics, but I will not be collecting this. The note blank pages corresponding to each topic are in parenthesis

**Chemistry:**

**Chemistry Review Notes**: in your journal

Atoms and Molecules

Understand and define the difference between them

Recognize basic atoms: carbon, hydrogen, oxygen, nitrogen and phosphorous

Understand what a proton and an electron are, and how they relate to the charge of an atom

Bonding:

Understand organic chemistry notation, and what the dots, lines and letters mean.

Know how many bonds carbon, oxygen and hydrogen make, and why that is important in organic things

Read chemical notation, and recognize distinct sections within large molecules (ex: phosphate head in a phospholipid)

**Lipids, Membranes, and Transport:**

**Lipids:** Noteblanks31-32

Know the parts of a lipid: glycerol, and either 3 fatty acid hydrocarbon tails or one phosphate group and two tails.

Understand the meaning of polarity

Identify a saturated and an unsaturated fat

Understand the function of lipids, and why their structure allows them to preform those functions

**Membranes:** Noteblanks33-35

Label a diagram of a phospholipid bilayer with the hydrophobic and hydrophilic zones

Define and use hydrophilic and hydrophobic correctly

Describe how the structure and polarity of a phospholipid allows for the formation of a bilayer

Define fluid mosaic model

Describe why water can pass through a phospholipid bilayer using the polarity of both water and the phospholipid

Recognize and label channel, marker, and receptor proteins on a diagram of a bilayer

Describe the function of channel, marker and receptor proteins

**Transport:** Noteblanks 36-41

Define passive transport, osmosis, facilitated diffusion, and active transport

Show the movement of water in a system with two different concentrations of a solute, and calculate the final percentage

Define solute, solvent and solution

Define hypertonic, hypotonic and isotonic

Recognize the possible consiquences in each of the above instances

Recognize when a cell is in a hypotonic or hypertonic solution based on the surrounding solution

Know that any molecule will move from an area of high concentration to an area of low concentration without using energy

Know that to move any molecule from an area of low concentration to an area of high concentration, it take energy.