Assignment: 2

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour:\_\_\_

**Membrane Notes Day 1**

**Cell (Plasma) Membrane**

Cells need an inside and an outside…

* Separate cell from its environment
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**In**

* \_\_\_\_\_\_\_\_\_\_
  + Sugars
  + Proteins
  + Fats
* Salts
* O2
* H2O

**Out**

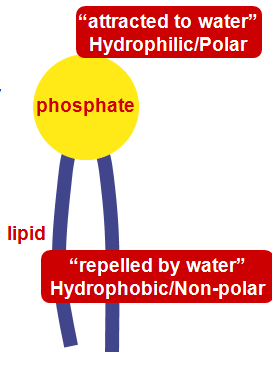
* \_\_\_\_\_\_\_\_\_\_
  + Ammonia
  + Salts
  + CO2
  + H2O
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Proteins

**Cell Membrane Functions**

* Allow things to \_\_\_\_\_\_\_\_\_\_
* Keeps material \_\_\_\_\_\_\_
* Holds \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to help cells \_\_\_\_\_\_\_\_\_\_\_\_\_\_ each other
* Allow cells to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and respond to their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Lipids of Cell Membrane**

Membrane is made of a special kind of \_\_\_\_\_\_\_\_\_\_\_\_ that is the \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* “Split personality”

Membrane is a \_\_\_\_\_\_\_\_\_\_ layer

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

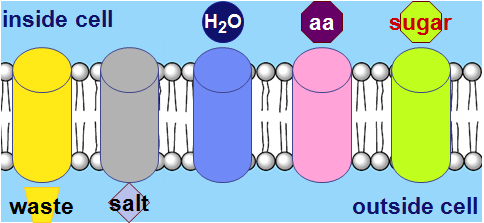
**Selectively (\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) Membrane**

Cell membrane controls what gets in or out

Need to allow \_\_\_\_\_\_\_\_ materials – but not all – to pass through the membrane

* Selectively (semi-permeable)
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Crossing the Cell Membrane**

What molecules can get through the cell membrane directly?

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Cell Membrane Channels**

Need to make “doors” through membrane

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ allow substances \_\_\_\_ and \_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ allow \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in and out
  + H2O channel, salt channel, sugar channel, etc.

**Proteins are an anchor molecule**

**Within membrane**

* \_\_\_\_\_\_\_\_\_\_\_ amino acids
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Anchors protein into membrane

**On outer surfaces of membrane**

* \_\_\_\_\_\_\_\_\_\_\_\_ amino acids
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Extend into extracellular fluid (between cells) and into cytoplasm

**Protein Channels**

Proteins act as \_\_\_\_\_\_\_\_\_\_\_\_ in the membrane

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to move \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ through cell membrane

**Molecules move from high to low**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Move from \_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_ concentration

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Having a \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_ concentration of \_\_\_\_\_\_\_\_\_ in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

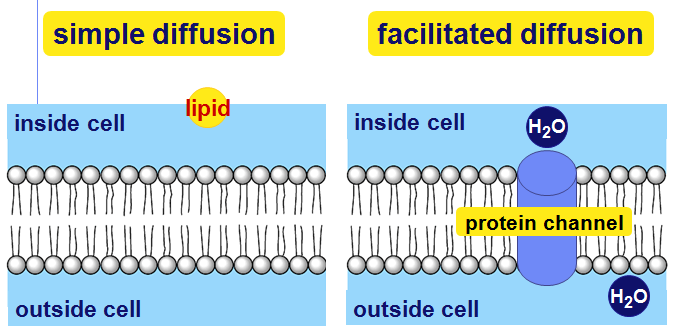
**Vocabulary**

A solution is made of two parts:

* Solute – what gets \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a solution
* Solvent – what does the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, typically the \_\_\_\_\_\_\_\_\_\_

Examples:

* Kool-Aid Solute: Solvent:
* Salt Water Solute: Solvent:

**Diffusion**

Move from \_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_ concentration

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Simple Diffusion**

* Move from \_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_

**Facilitated Diffusion**

* Move from \_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_ through a \_\_\_\_\_\_\_\_\_\_\_\_\_

**Diffusion (summary)**

Move from \_\_\_\_\_\_ to \_\_\_\_\_\_ concentration

* Directly through the \_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Help through a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (with help)
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Active Transport**

Cells may need molecules to move \_\_\_\_\_\_\_\_\_ concentration “hill”

* Need to pump “uphill”
  + From \_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_ using energy
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_