**Cell Transport Guided Notes**

**Plasma Membrane**

-It is considered the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the cell. It’s flexible and allows a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ organism to move. It creates a protective barrier that regulates what goes into and out of the cell (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ permeable). IT allows for cell recognition and provides \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sites for filaments of the cytoskeleton in animal cells.

**Outside vs. Inside Cell Membrane**

-Polar heads are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ “water loving” and nonpolar tails are hydrophobic “water fearing”. These two sides make the cell membrane selectively \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Three forms of Transport Across Membranes**

1. Simple \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ diffusion

3. Active transport

**Passive Transport**

-Cells always move particles in or out of a cell. Cells can use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ transport to move molecules across a cell membrane \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ using energy. Osmosis and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are two types of passive transport

**Diffusion**

-Diffusion is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of molecules in a fluid or \_\_\_\_\_\_\_\_\_ from an area of high concentration (lots of molecules) to an area of \_\_\_\_\_\_\_\_\_\_\_\_ concentration (less molecules). Example: small lipids, oxygen and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ diffuse across a membrane

**Osmosis**

-Occurs when water moves from a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ concentration (less solutes) to an area with a lower concentration of \_\_\_\_\_\_\_\_\_\_\_\_\_ (more solutes).

**Why is osmosis important?**

-It’s important because cells are surrounded by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules. The number of water molecules inside and outside the cell must be almost \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Equilibrium-when molecules are \_\_\_\_\_\_\_\_\_\_\_\_ throughout a space.

**Tonicity is a Relative Term**

-Isotonic solution-a solution (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the cell) is isotonic to a cell if it has the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of particles as the cell.

-Hypertonic solution-a hypertonic solution has a higher concentration of particles compared to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a cell

-Hypotonic solution-a hypotonic solution has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ concentration of dissolved particles compared to the inside of a \_\_\_\_\_\_\_\_\_\_\_.

**Facilitated Diffusion**

-Some molecules can’t diffuse \_\_\_\_\_\_\_\_\_\_\_\_ across a cell membrane. Facilitated diffusion is the diffusion of molecules across a membrane (\_\_\_\_\_\_\_\_\_\_\_\_\_ a concentration gradient) using transport \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The proteins make it easier to move substances

**What is Active Transport?**

-It drives molecules across a membrane from a region of \_\_\_\_\_\_\_\_ concentration to a region of \_\_\_\_\_\_\_\_\_\_\_\_ concentration. Active transport uses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ called ATP. It uses transport proteins to move substances \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the concentration gradient.

**Transportation of Materials in a Cell**

**-Endocytosis**-process of taking \_\_\_\_\_\_\_\_\_\_\_ molecules into a cell by engulfing them in a membrane “cell \_\_\_\_\_\_\_\_\_\_\_\_\_”.

**-Exocytosis**-release of substances out of a cell by using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that attach to the membrane to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ contents. This is how hormones are secreted and \_\_\_\_\_\_\_\_\_\_\_\_\_ cells communicate with one another

**Phagocytosis**

-Means “cell eating”. Helps to \_\_\_\_\_\_\_\_\_\_\_\_\_ infections by eating bacteria and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ them.