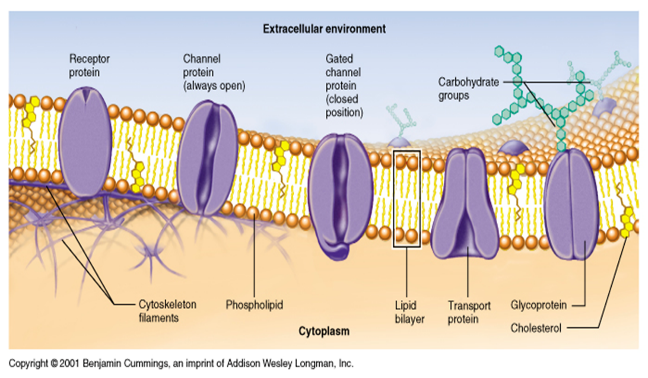
Cell Transport Student Notes

* The \_\_\_\_\_\_\_\_\_ of all cells are surrounded by a membrane made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Nickname: “The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”

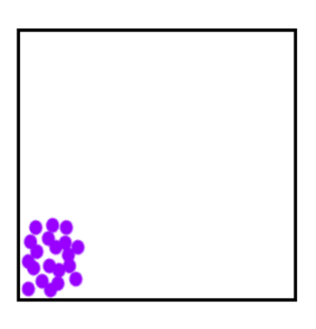
**Membrane Structure**

* There are \_\_\_\_\_\_\_\_\_\_ “stuck” in the membrane that \_\_\_\_\_\_\_\_\_\_ get things \_\_\_\_\_\_ and \_\_\_\_\_\_\_ of the cells.
* They also help to get \_\_\_\_\_\_\_\_\_\_\_\_ into the cell.
* The Membrane is a lipid \_\_\_layer.
* Selective Permeability –membrane’s ability to allow \_\_\_\_\_\_\_\_\_\_ molecules through and keeps \_\_\_\_\_\_\_\_\_ molecules \_\_\_\_\_\_\_. Helps maintain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

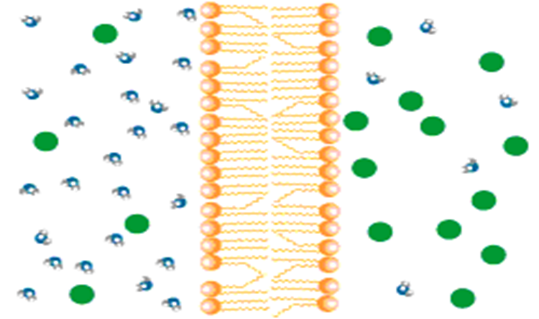
**Transport Through the Membrane**

Two types

* + Passive Transport
    - Energy \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Active Transport
    - Energy is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Diffusion (Passive Transport)

* Movement of molecules from \_\_\_\_\_\_\_\_\_\_\_\_\_\_ concentration \_\_\_\_\_\_\_\_\_\_\_\_\_\_ concentration.
* Always higher to lower!
* \_\_\_\_\_ energy input required!

\_\_\_\_\_\_\_\_\_(Passive Transport)

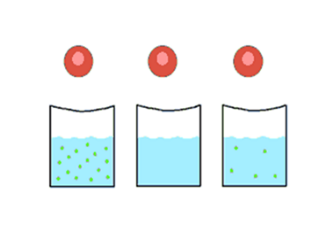
* Diffusion of water through a cell membrane

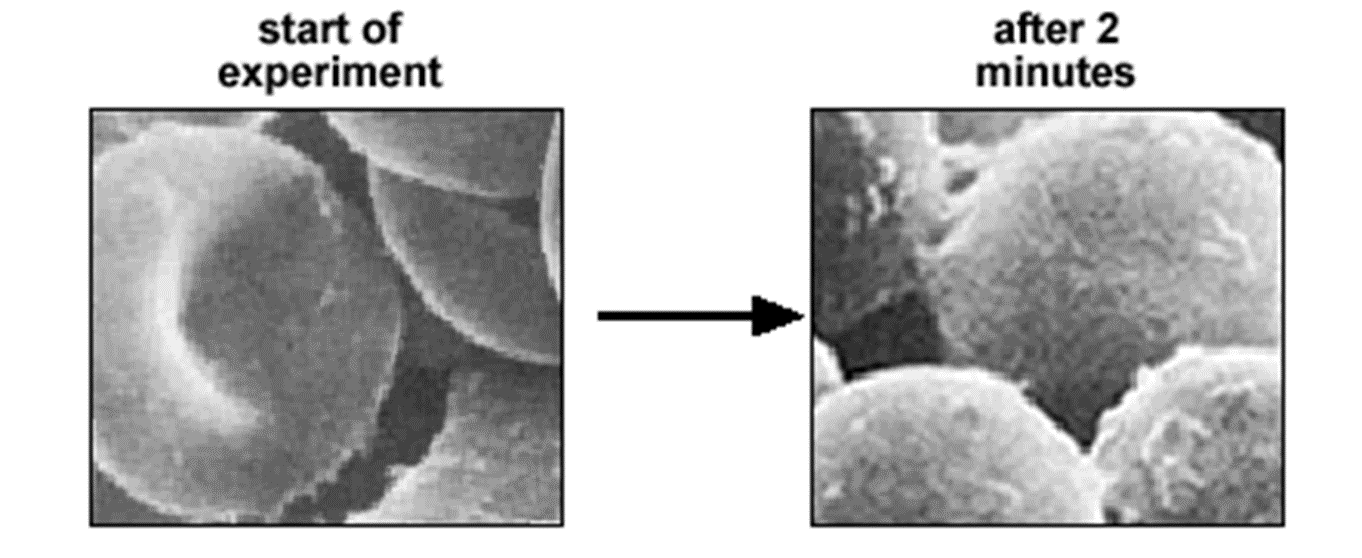
Solutions

Higher concentration of solutes outside of cell = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

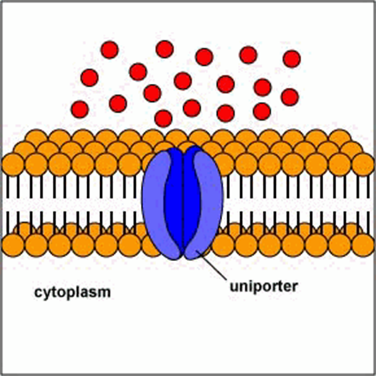
Lower concentration of solutes inside the cell = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Equal solute concentration inside and outside of the cell = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3 types of Solutions

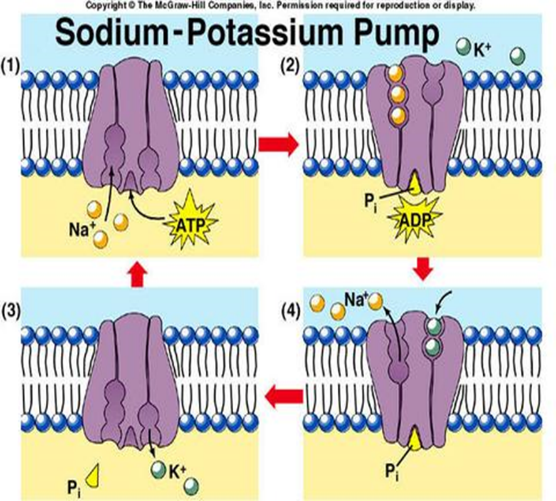
What types of solution?

Hypertonic or Hypotonic

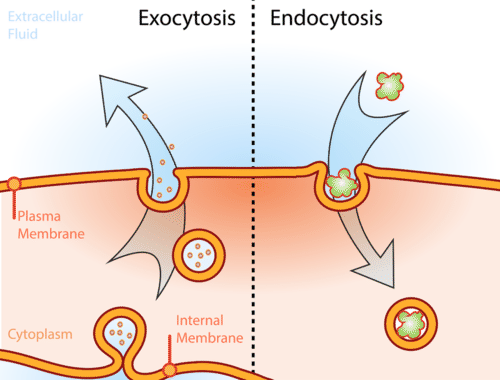


Facilitated Diffusion (Passive Transport):

* Energy is \_\_\_\_\_\_ required to move substances across the membrane, but a protein is needed due to the size of the molecule.

Active Transport

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Need \_\_\_\_\_\_\_\_ - the universal energy molecule.
* \_\_\_\_\_\_ to \_\_\_\_\_
* Some molecules are too large to get through a protein, they use vesicles.

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

* Into
* Pinocytosis (Liquid)
* Phagocytosis (Solids

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

* Out of cell
* Waste

What is rate of transport? How many molecules can cross the membrane in a given amount of time.

|  |  |  |
| --- | --- | --- |
|  |  | Rate of Transport |
| Size | Large |  |
| Small |  |
| Temp. | Hot |  |
| Cold |  |
| Concentration | High |  |
| Low |  |

Effects on Transport

**Summary: Types of Cellular Transport**

* **Passive Transport**

Cell doesn’t use energy

* 1. **Diffusion**
  2. Facilitated Diffusion
  3. **Osmosis**
* **Active Transport**

Cell does use energy

* 1. Protein Pumps
  2. **Endocytosis**
  3. Exocytosis

**high**

**low**

**This is gonna be hard work!!**



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Types of Movement Through the Cell Membrane | | | | |
|  | Diffusion | Osmosis | Facilitated Diffusion | Active Transport |
| Definition… | Movement of particles freely through the membrane from an area of high concentration to an area of low concentration. |  | Movement of particles from areas of high concentration to areas of low concentration with the help of channel proteins. |  |
| Does this process require ENERGY? | No | No |  |  |
| Examples |  | H2O through the membrane |  | Endocytosis and Exocytosis |