

Cell Transport Elevator

Name: _____

Date: _____

TEKS to Know:

- 1) 4B - Investigate and explain cellular processes, including homeostasis and transport of molecules.
- 2) 9D - Analyze and evaluate the evidence regarding formation of simple organic molecules and their organization into long complex molecules.

Bare Bones (4B):

Cell Transport Types -

PASSIVE

OsmOsis (H₂O) - Osmosis is the movement of water from HIGH to LOW concentration.

Diffusion - Is the movement of particles (NOT WATER) from HIGH to LOW concentration.

Facilitated Diffusion - HIGH to LOW, but CHANNEL PROTEINS work like a bridge.

Active TransPort - REQUIRES ENERGY. Transports molecules from LOW to HIGH concentration.

USE THE ABOVE TERMS TO ANSWER THE QUESTIONS BELOW:

1. Which type of cell transport requires energy while moving molecules from a low to high concentration? _____
2. Which type of transport requires a protein, moves from high to low concentration, but does not move water? _____
3. This type of transport moves water from high to low concentration: _____
4. The last type of transport also moves molecules from a high to low concentration. It does not require energy, does not need a protein, and does not move water: _____.

Other terms -

Homeostasis - A proper balance of molecules.

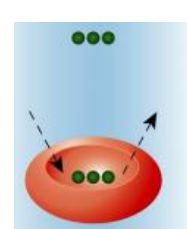
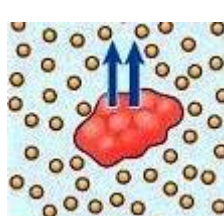
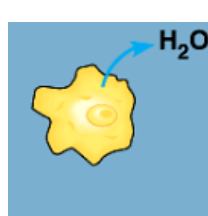
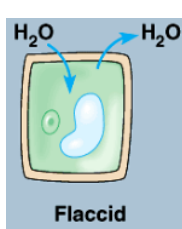
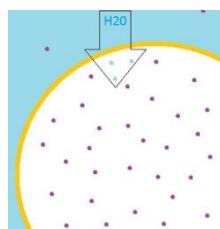
Equilibrium - An equal concentration on both sides of the membrane.

Hypertonic - Higher solute (solid) concentration solution; causes cell to **SHRINK**.

Hypotonic - Lower solute concentration solution; causes cell to **GROW**.

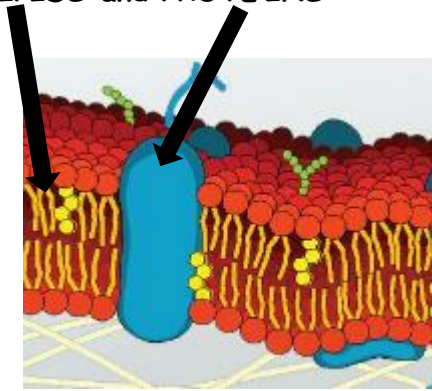
Isotonic - Same concentration solution; cell size **REMAINS THE SAME**.

Use the tonicity terms to classify the following solutions (hypotonic, hypertonic, and isotonic):



Bare Bones (9D):

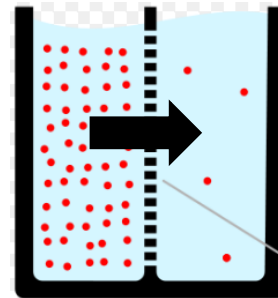
- The Cell Membrane is made up of **LIPIDS** and **PROTEINS**
- **LIPIDS**
 - o Polar Heads
 - Attracts Water
 - o Non-Polar Tails
 - Repels Water
- **PROTEINS**
 - o Marker
 - Recognize similar cells
 - o Receptor
 - Specific shape to transport molecules
 - o Channel
 - Works like bridge to transport larger molecules



Using the previous information, answer the following questions:

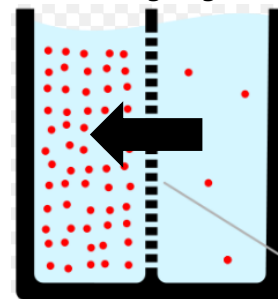
- 1) Are the heads polar or non-polar? _____
- 2) Are the tails polar or non-polar? _____
- 3) What do the polar heads interact with that the non-polar tails cannot? _____
- 4) a) Will a molecule need ATP (energy) to get through the membrane if it is going from a HIGH to LOW concentration (Down the gradient)? _____

b) If water is the only thing that could pass through the membrane, which side would get more water (Right/Left)



- 5) a) Will a molecule need ATP (energy) to get through the membrane if it is going from a LOW to HIGH concentration (Up the gradient)? _____

b) What kind of transport is this (see front side)?



- 6) Match the following terms:

- a. Solute
- b. Solvent
- c. Solution

1. Mixture of Solute and Solvent
2. Usually a solid - dissolves
3. Usually a liquid - makes other things dissolve