

Cell Transport Review Worksheet

Complete the table by checking the correct column for each statement:

Statement	Isotonic solution	Hypotonic solution	Hypertonic solution
Causes a cell to swell		X	
Doesn't change the shape of a cell	X		
Causes osmosis		X	X
Causes a cell to shrink			X

Match the term with its correct description:

- | | |
|--------------------------|---------------------|
| a. energy | e. active transport |
| b. facilitated diffusion | f. exocytosis |
| c. endocytosis | g. carrier protein |
| d. passive transport | h. channel protein |

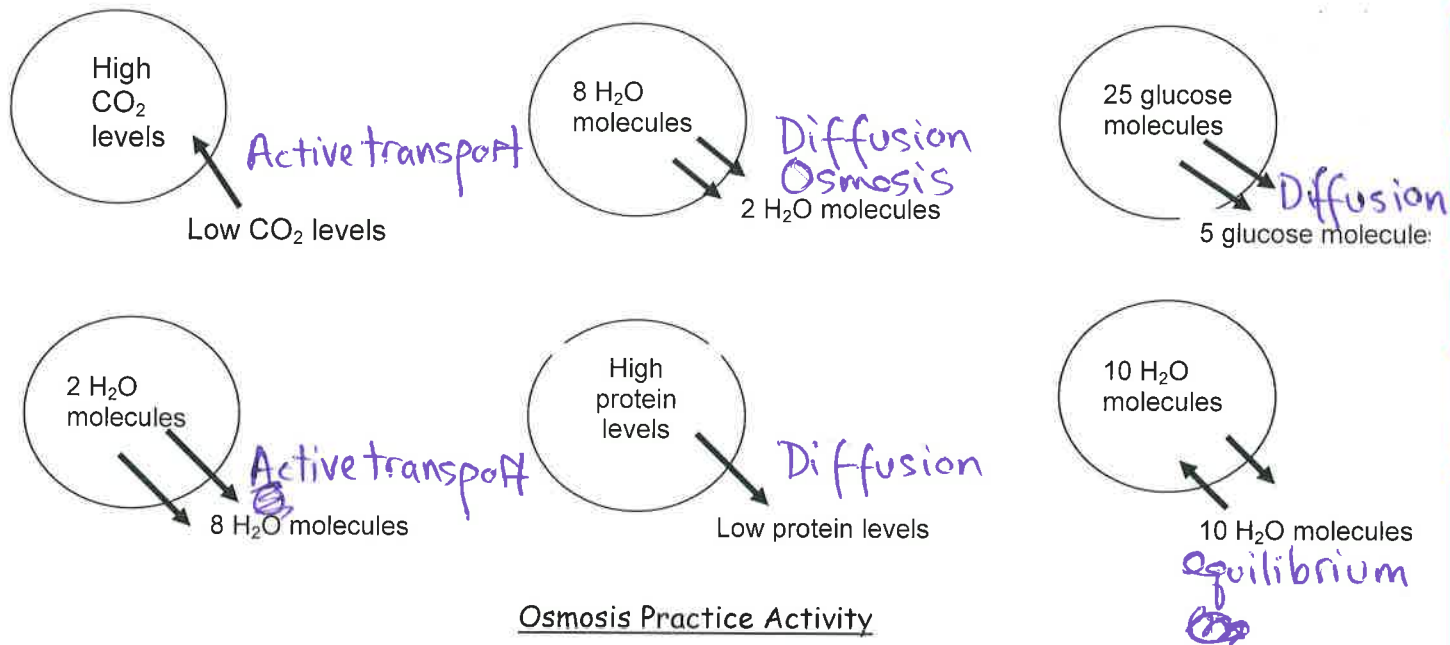
- H Transport protein that provides a tube-like opening in the plasma membrane through which particles can diffuse
- A Is used during active transport but not passive transport
- C Process by which a cell takes in material by forming a vacuole around it
- D Particle movement from an area of higher concentration to an area of lower concentration
- F Process by which a cell expels wastes from a vacuole
- B A form of passive transport that uses transport proteins
- E Particle movement from an area of lower concentration to an area of higher concentration
- G Transport protein that changes shape when a particle binds with it

Match the term with its correct description:

- | | | |
|----------------------|----------------------|----------------|
| a. transport protein | d. passive transport | g. exocytosis |
| b. active transport | e. osmosis | h. equilibrium |
| c. diffusion | f. endocytosis | |

- E The diffusion of water through a cell membrane
- D The movement of substances through the cell membrane without the use of cellular energy
- A Used to help substances enter or exit the cell membrane
- B When energy is required to move materials through a cell membrane
- H When the molecules of one substance are spread evenly throughout another substance to become balanced
- G A vacuole membrane fuses (becomes a part of) the cell membrane and the contents are released
- F The cell membrane forms around another substance, for example, how the amoeba gets its food
- D When molecules move from areas of high concentration to areas of low concentration

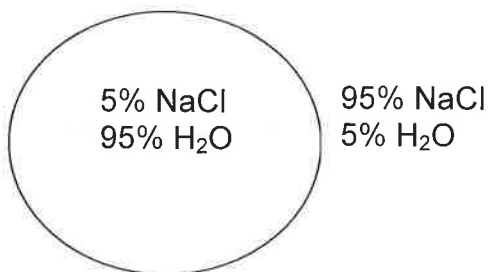
Label the diagrams of cells using the following terms: diffusion, active transport, osmosis, equilibrium. The arrows show the direction of transport. You may use the terms more than once!



Osmosis Practice Activity

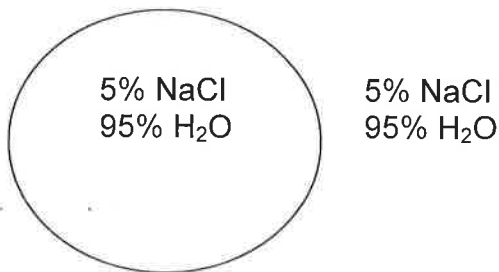
Osmosis is the diffusion of water from an area of high concentration to an area of low concentration. Only water moves in osmosis! The diagrams below show the concentration of water and salt inside the cell and the concentration of water and salt surrounding the cell. Complete the sentences below by comparing the concentration of the water inside the cell and the concentration outside the cell.

1.



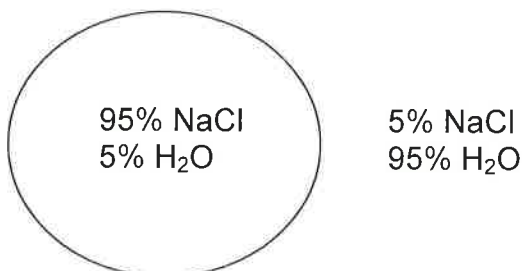
- a. Water will flow out of cell (into the cell, out of the cell, in both directions).
- b. The cell will shrink (shrink, burst, stay the same).

2.



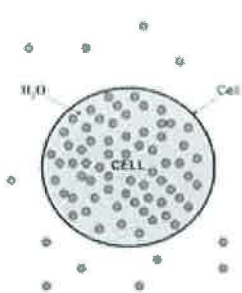
- a. Water will flow into cell (into the cell, out of the cell, in both directions).
- b. The cell will swell (shrink, burst, stay the same).

3.

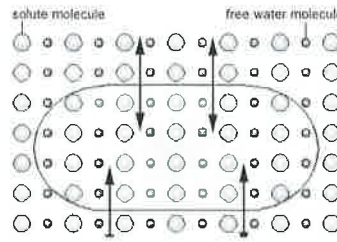


- a. Water will flow into cell (into the cell, out of the cell, in both directions).
- b. The cell will swell (shrink, burst, stay the same).

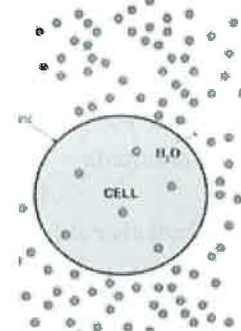
4. At which solution of concentration gradient is each cell diagram? (Hypotonic, Hypertonic, Isotonic)



hypertonic

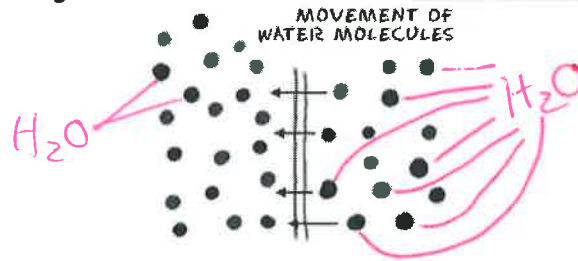


b. isotonic

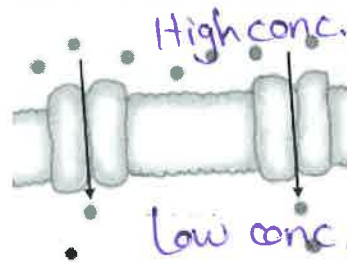


c. hypotonic

5. This diagram is moving from a high to a low concentration: osmosis



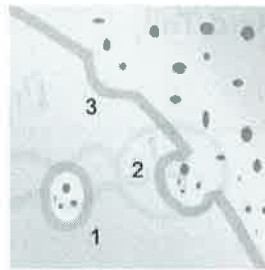
6. Using a transport protein to move particles across the membrane: facilitated diffusion



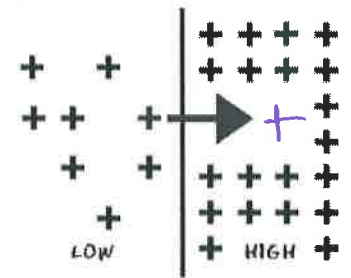
7. Describe the processes occurring in the following pictures:



endocytosis



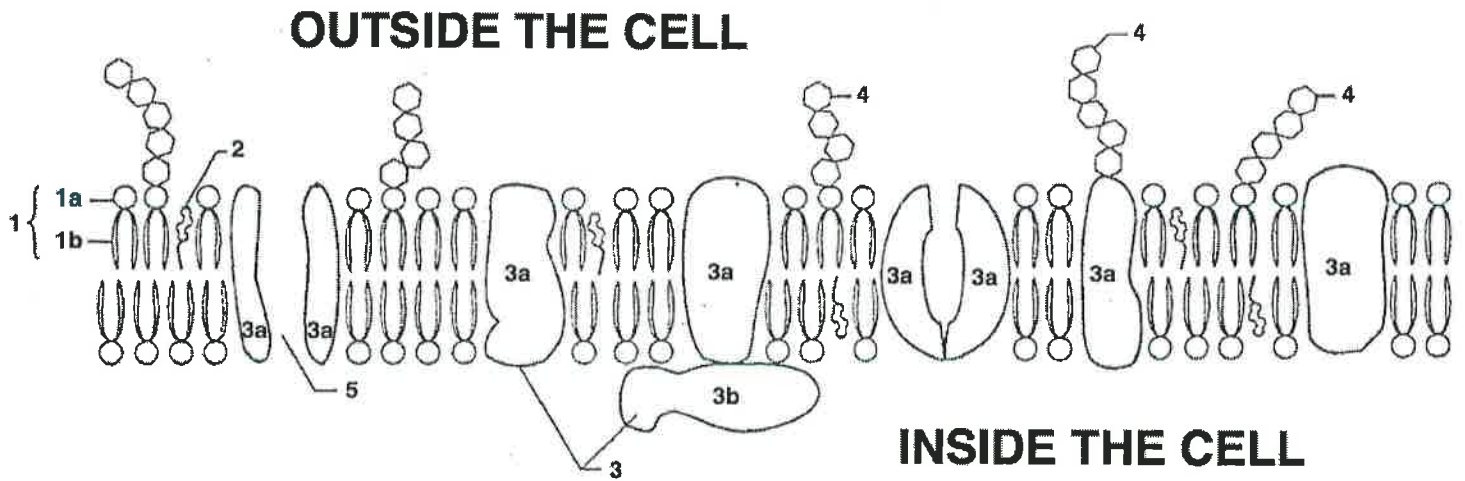
exocytosis



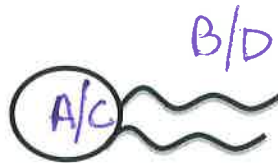
active transport

Directions: Pictured below is a cross section of a typical cell membrane. Use the numbers and terms to color each part. Color in the ○ with the color that you are using for that term in the diagram. Once you have colored something one time, you should be able to find other examples of it in the membrane. Color all examples of it you see. By the time you have finished, ALL parts of the membrane should be colored in.

1. Phospholipids-- 1a. ○ head
1b. ○ tail
2. ○ Cholesterol (another kind of lipid)
3. Proteins -- 3a. ○ Integral Protein
3b. ○ Peripheral Protein
4. ○ Carbohydrates
5. ○ Protein Channels
6. ○ Cytoplasm



Label the Phospholipid. Include the terms: Phosphate Head, Fatty Acid Tail, Hydrophilic, Hydrophobic



Front of card: describe term in your own words.

Back of card: Draw a picture to illustrate term. Use book or internet to help.

<p>Active transport</p> <p>Transport across membrane that requires energy eg transport w/ carrier protein endocytosis exocytosis</p>	<p>Semi permeable</p> <p>- allows some molecules to cross membrane and others NOT.</p>
<p>Cell membrane</p> <ul style="list-style-type: none">- barrier betw/ cell + envmt.- made of phospholipids cholesterol proteins- regulates what enters + leaves cell.	<p>Diffusion</p> <p>- Movement of particles from high to low concentrations.</p>
<p>Cytolysis</p> <ul style="list-style-type: none">- break down of cell.- bursting of cell.	<p>Osmosis</p> <p>- Movement of H_2O from high to low concentration across a membrane.</p>
<p>Endocytosis</p> <ul style="list-style-type: none">- large particles engulfed by cell membrane + brought INTO cell.	<p>Exocytosis</p> <ul style="list-style-type: none">- large particles surrounded by membrane + moved OUT of cell.
<p>Facilitated diffusion</p> <ul style="list-style-type: none">- diffusion of larger particles across membrane w/ help of channel protein.	<p>Homeostasis</p> <ul style="list-style-type: none">- maintaining stable internal conditions.

