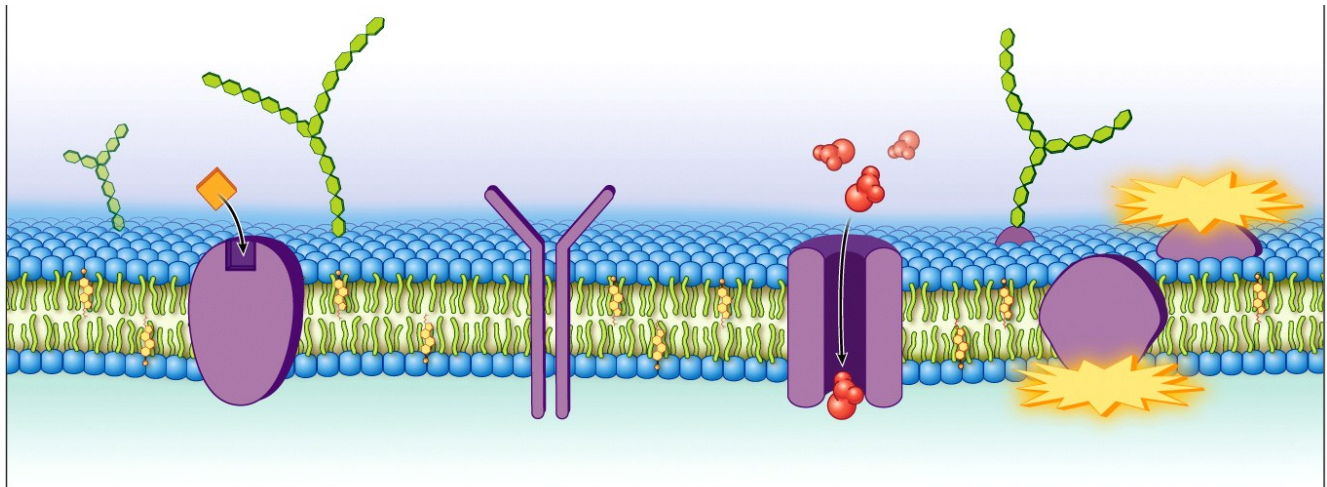


Cell Transport Review Worksheet

Draw a line and label the following cell membrane components on the diagram below:

- Phosphate head
- Lipid tail
- Carbohydrate chain
- Channel protein
- Protein pump
- Cholesterol



Circle the correct descriptions for each component:

- The phosphate heads are hydrophobic / hydrophilic,
which means they point toward water / point away from water
- The lipid tails are hydrophobic / hydrophilic,
which means they point toward water / point away from water

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

Statement	ISOtonic solution	HYPOTonic solution	HYPERTonic solution
Causes a cell to swell			
Doesn't change the shape of a cell			
Causes osmosis			
Causes a cell to shrink			

Match the term with its correct description:

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

_____ Membrane protein that provides a tube-like opening in the cell membrane through which particles can diffuse

_____ Is required during active transport but not passive transport

_____ Process by which a cell takes in material by forming a vacuole around it

_____ Particle movement from an area of higher concentration to an area of lower concentration

_____ Process by which a cell expels wastes from a vacuole

_____ A form of passive transport that uses membrane proteins

_____ Particle movement from an area of lower concentration to an area of higher concentration

_____ Protein that must use **energy** to help transport particles across the membrane

Match the term with its correct description:

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

_____ The diffusion of **water** through a cell membrane

_____ The movement of substances through the cell membrane without the use of cellular energy

_____ Used to facilitate particles crossing the cell membrane

_____ When energy is required to move materials through a cell membrane

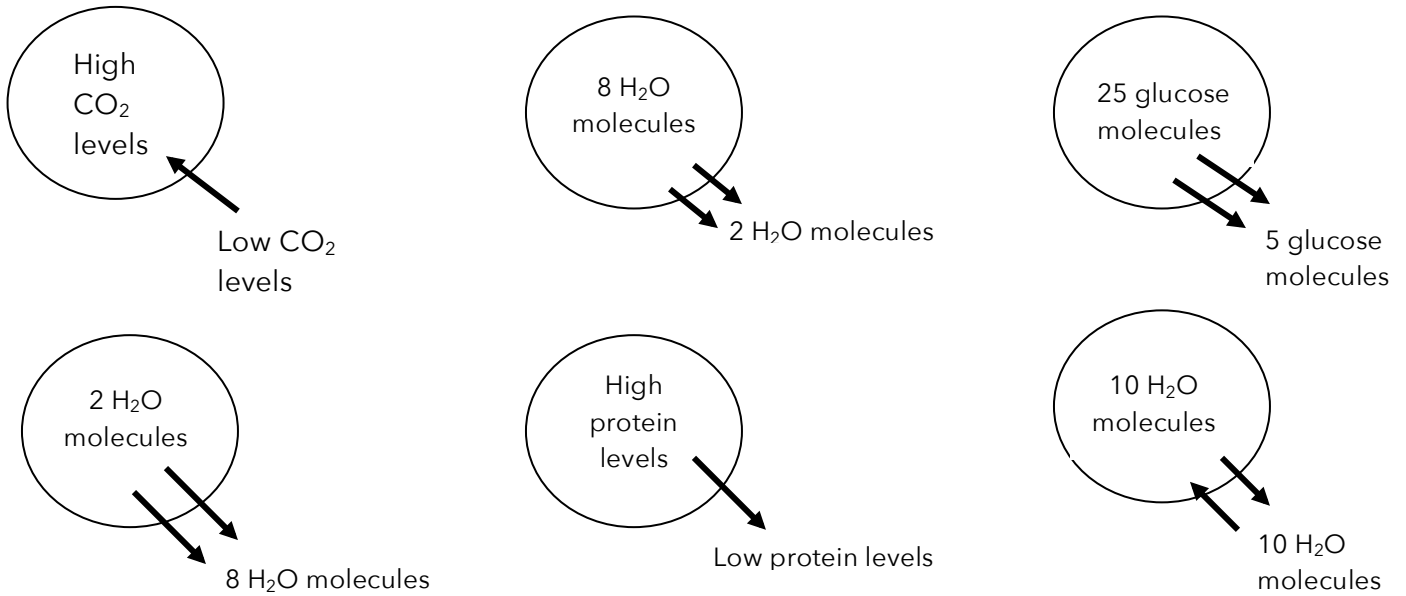
_____ The word used to describe when the molecules of one substance are spread **evenly** throughout another substance to become balanced

_____ A vacuole membrane fuses (becomes a part of) the cell membrane and the contents are released

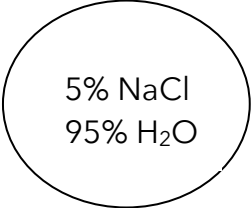
_____ The cell membrane forms around another substance, for example, how the amoeba gets its food

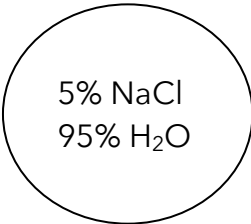
_____ When molecules move from areas of high concentration to areas of low concentration

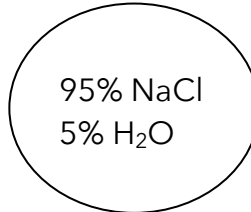
Label the diagrams of cells using the following terms: diffusion, active transport, osmosis, equilibrium. The arrows show the direction of transport. You may need to use the terms more than once!



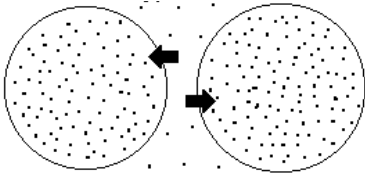
Osmosis is the diffusion of **water** from an area of high concentration to an area of low concentration. **Only water moves in osmosis!** The diagrams below show the concentration of water and salt inside the cell and the concentration of water and salt outside the cell. Complete the sentences below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

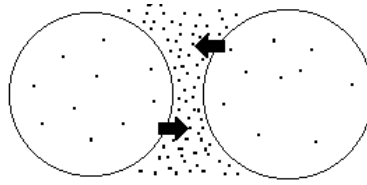
1. 
 - a. Water will flow _____.
(into the cell, out of the cell, in both directions)
 - b. The cell will _____.
(shrink, swell, stay the same)

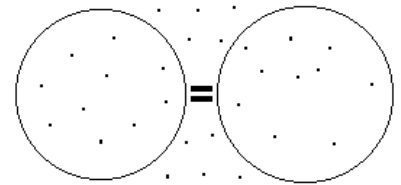
2. 
 - a. Water will flow _____. (into the cell, out of the cell, in both directions)
 - b. The cell will _____.
(shrink, swell, stay the same)

3. 
 - a. Water will flow _____.
(into the cell, out of the cell, in both directions)
 - b. The cell will _____.
(shrink, swell, stay the same)

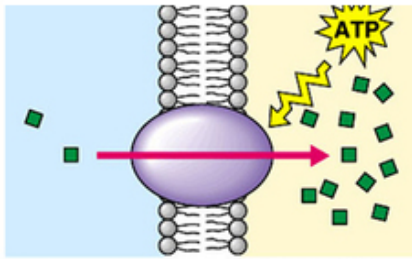
Identify the following diagrams as either **HYPER**tonic, **HYPOT**onic, or **ISO**tonic



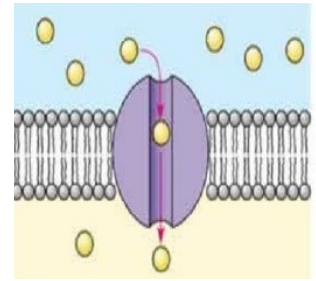


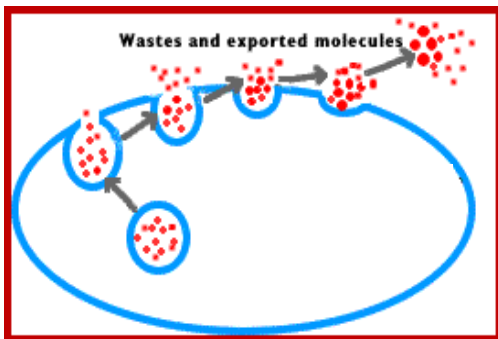


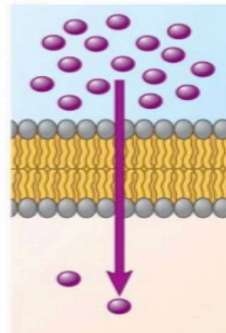
What type of cell transport is illustrated below? Simple diffusion, facilitated diffusion, active transport, osmosis, endocytosis, or exocytosis?

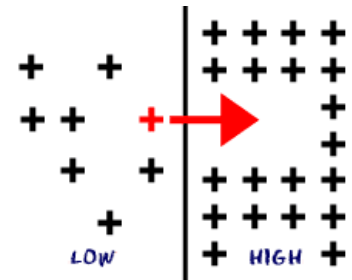


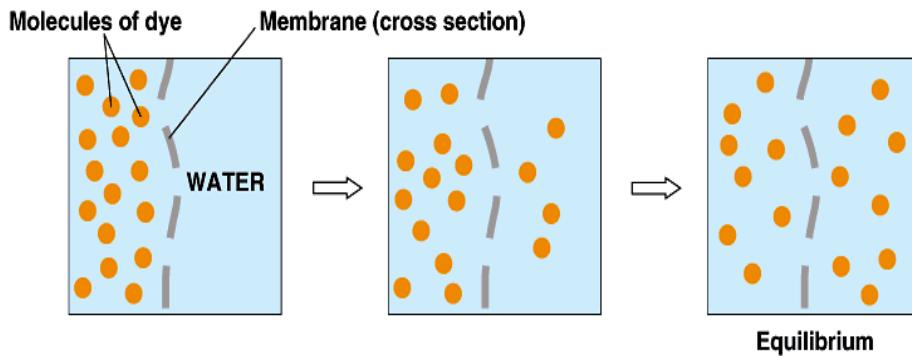


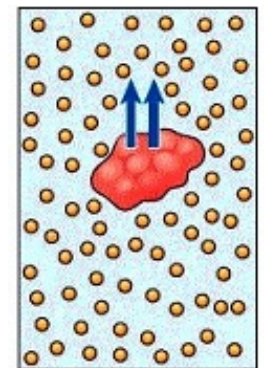












: Shrunken (crenated) red blood cell
