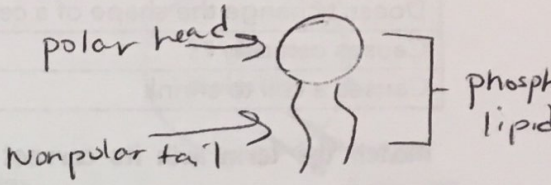
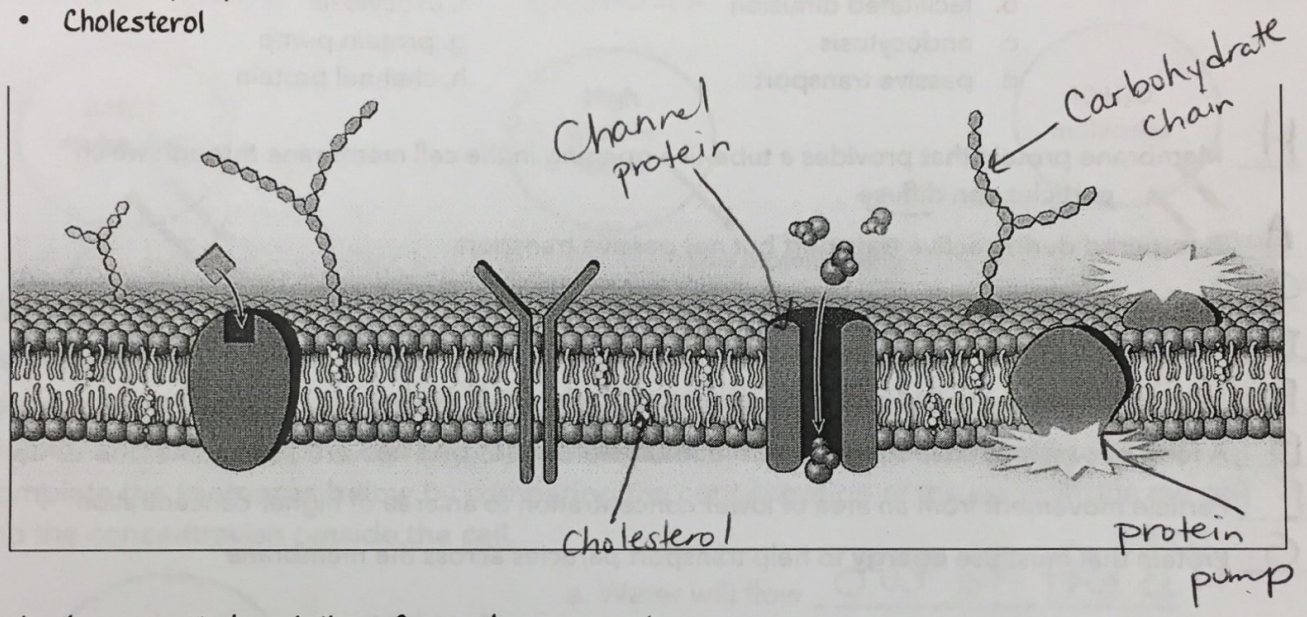
Name: _____

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

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

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

A Is required 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 membrane proteins

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

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

Match the term with its correct description:

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

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

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

A Used to facilitate particles crossing the cell membrane

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

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

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

E 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

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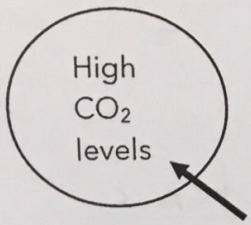
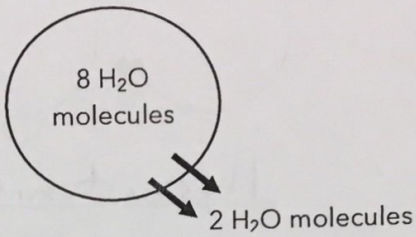
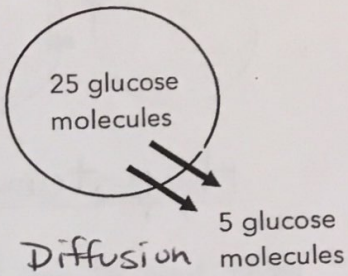
Label the diagrams of cells using the following terms: diffusion, active transport, osmosis, equilibrium. The arrows show the direction of transport. You may need to use the terms more than once!



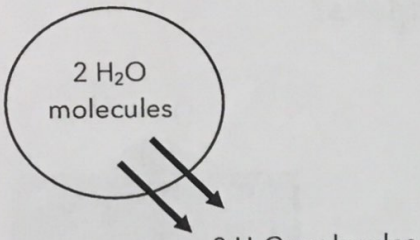
Active



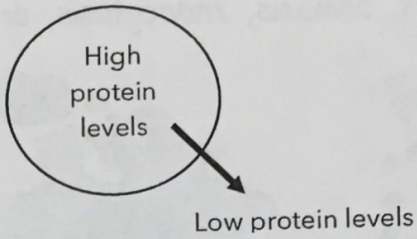
Osmosis



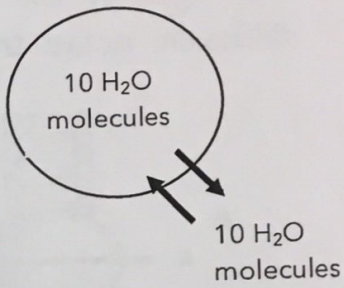
Diffusion



Active, ⊗

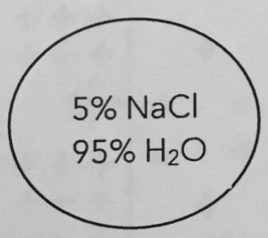


Diffusion



Equilibrium

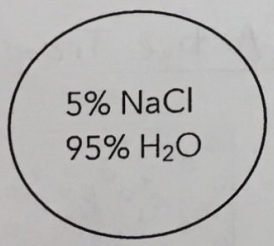
Osmosis is the diffusion of **water** from an area of high concentration to an area of low concentration. **Only water moves in osmosis**! The diagrams below show the concentration of water and salt inside the cell and the concentration of water and salt outside the cell. Complete the sentences below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

1. 

95% NaCl
5% H_2O

a. Water will flow out of the cell.
(into the cell, out of the cell, in both directions)

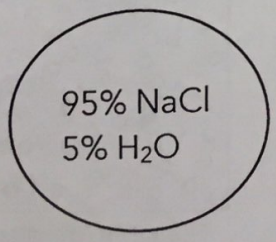
b. The cell will shrink.
(shrink, swell, stay the same)

2. 

5% NaCl
95% H_2O

a. Water will flow in both directions. (into the cell, out of the cell, in both directions)

b. The cell will stay the same
(shrink, swell, stay the same)

3. 

5% NaCl
95% H_2O

a. Water will flow into the cell.
(into the cell, out of the cell, in both directions)

b. The cell will swell.
(shrink, swell, stay the same)

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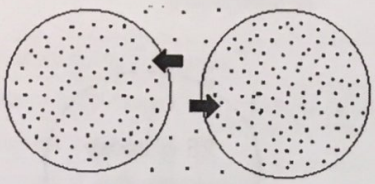
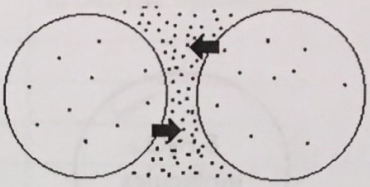
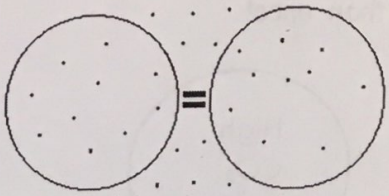
Identify the following diagrams as either HYPERtonic, HYPOtonic, or ISOtonic



Hypotonic

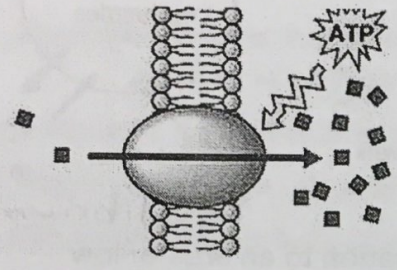


Hypertonic

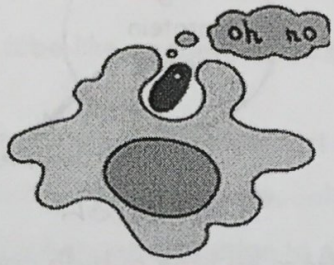


isotonic

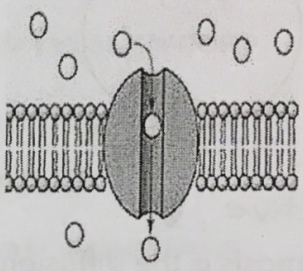
What type of cell transport is illustrated below? Simple diffusion, facilitated diffusion, active transport, osmosis, endocytosis, or exocytosis?



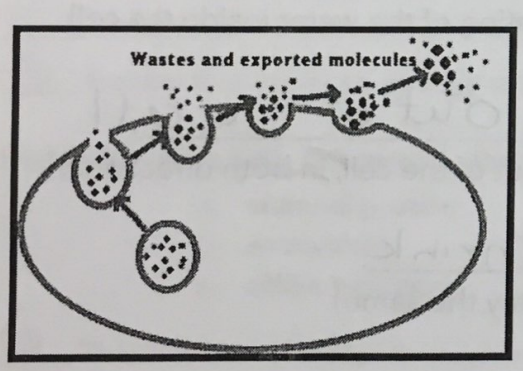
Active Transport



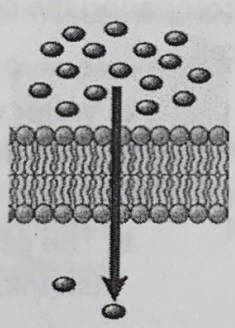
Endocytosis



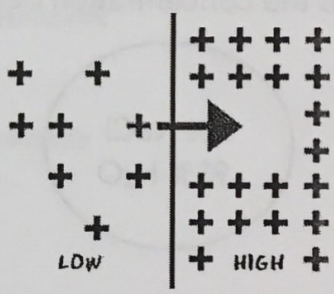
Facilitated Diffusion



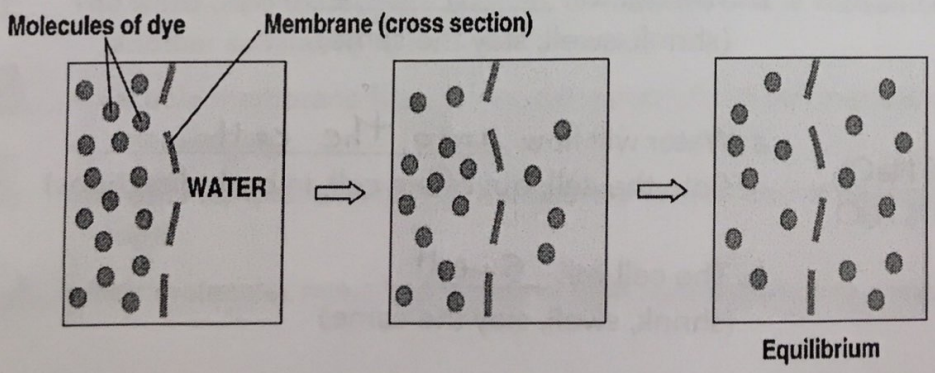
Exocytosis



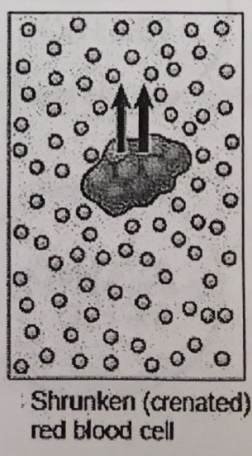
Simple Diffusion



Active Transport



Simple diffusion



Osmosis

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