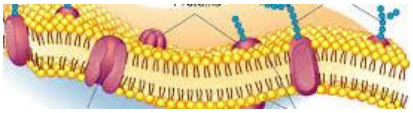
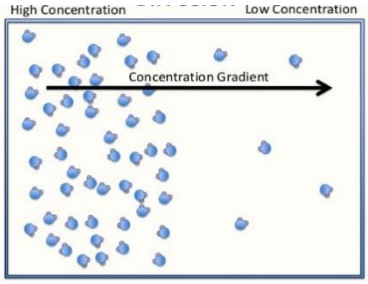
Name:_____ Date:_____ Period:_____

Cell Membrane and Transport Test Review-PAP



<u>Multiple choice:</u> Circle the answer(s) that best completes the sentences

1. Which of the following is Not true about the cell membranes?
    a. Cell membranes allow ALL substances to pass through easily
    b. It is selectively permeable so only certain molecules can pass through it.
    c. Cell membranes surround all animal, plant, and bacterial cells.
    d. It is a bilayer composed mainly of phospholipids and proteins

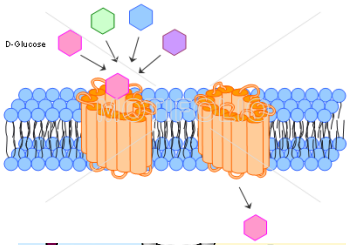


2. During diffusion molecules tend to move _____
    a. Against or Up the concentration gradient
    b. With or down the concentration gradient
    c. From an area of lower concentration to an area of higher concentration
    d. In a direction that doesn't depend on concentration

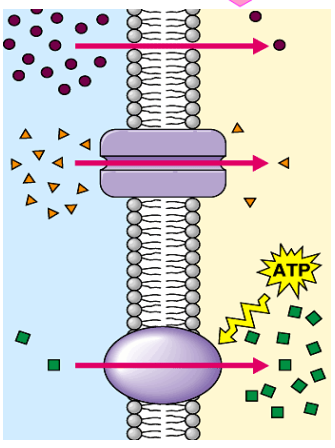
3. When the concentration of a solute is the same throughout a system, the system has reached _____.
    a. Maximum concentration
    b. Homeostasis
    c. Osmosis
    d. Phagocytosis

4. Phagocytosis, pinocytosis, and exocytosis are all kinds of_____ transport.
    a. Active
    b. Passive
    c. Facilitated
    d. Simple

5. Glucose enters a cell from high concentration to low concentration using a protein.
    a. Diffusion
    b. Facilitated diffusion
    c. Ion channels
    d. Phagocytosis



6. Energy for active transport in the cell membrane is _____.
    a. Chloroplast
    b. ATP
    c. Mitochondria
    d. Glucose



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7. All the following are kinds of passive transport EXCEPT _____
    a. Diffusion
    b. Facilitated diffusion
    c. Osmosis
    d. Active transport

8. _____ transport requires energy from ATP to move substances across membranes.
    a. Passive
    b. Active
    c. Facilitated
    d. Simple

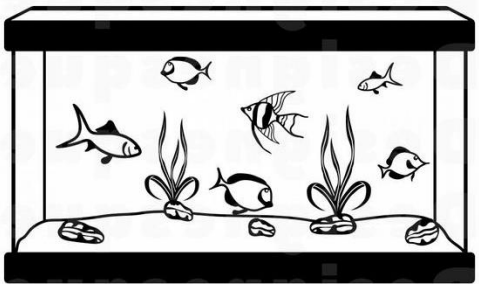
9. Placing an animal cell in a hypotonic solution will cause the water to _____
    a. Move into the cell
    b. Move out of the cell
    c. Stay the same
    d. Have no effect on the animal cell

10. Gases like oxygen and carbon dioxide move freely across the cell membrane.
    a. Endocytosis
    b. Ion channels
    c. Diffusion
    d. Facilitated diffusion

11. Which of the following is classified as Homeostasis?
    a. When a person become sick and spike a fever
    b. When it is cold outside, and a person put on a jacket
    c. Touching a hot stove and you burn your hand
    d. When a person is hungry, so they eat food

12. Johnny is a student in Aquatic Science and he was given the responsibly of taking care of gobies (saltwater fish). Johnny only has a freshwater tank at home. Why can't Johnny take home the gobies and put them in the freshwater tank?

    a. The gobies are too much responsibility for Johnny to handle
    b. The gobies will lose water from their bodies and dehydrate
    c. The gobies will not enjoy living in freshwater
    d. The gobies will accumulate too much water their bodies and will eventually die



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Match the term with its correct description:

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

_____ 6. Transport protein that provides an opening or doorway in the plasma membrane through which particles can diffuse

_____ 7. Is used during active transport but not passive transport

_____ 8. Particle movement from an area of higher concentration to an area of lower concentration

_____ 9. A form of passive transport that uses transport proteins

_____ 10. Particle movement from an area of lower concentration to an area of higher concentration

_____ 11. The diffusion of water through a cell membrane

_____ 12. The movement of substances through the cell membrane without the use of cellular energy

_____ 13. When the molecules of one substance are spread evenly throughout another substance to become balanced

Label the following as True or False:

_____ 14. The cell membrane is the organelle that is involved with helping homeostasis.

_____15. Semi permeable and plasma membrane are other names for cell membrane.

_____16. Gases, wastes, sugar, water and salts can pass directly through the membrane.

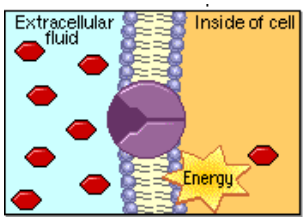
_____17. Solute is the substances the does the dissolving.

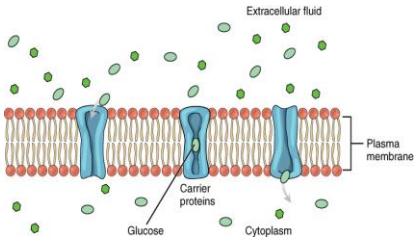
_____18. If the concentration of solute is greater outside the cell, water will leave causing the cell to shrink.

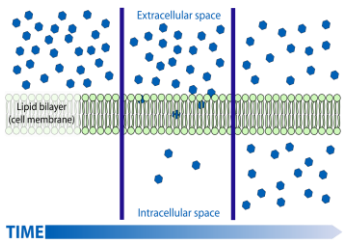
_____19. If concentration of solute is equal on both outside and inside the cell, the cell is at equilibrium.

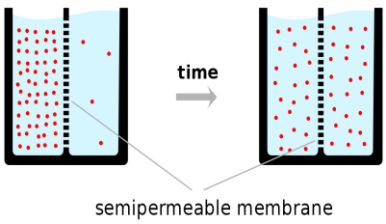
_____20. If concentration of solute is greater inside the cell; water will leave the cell causing the cell to shrink.

Label the following diagrams below: **Osmosis, facilitated diffusion, diffusion, active transport**









_____ _____ _____ _____

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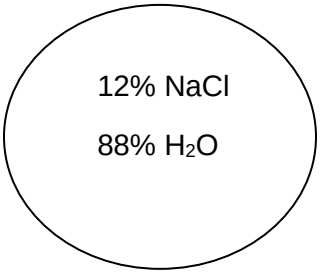
Osmosis is the diffusion of water from an area of high concentration to an area of low concentration. Only water moves in osmosis! The diagrams below show the concentration of water and salt inside the cell and the concentration of water and salt surrounding the cell. Complete the sentences below by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

1.

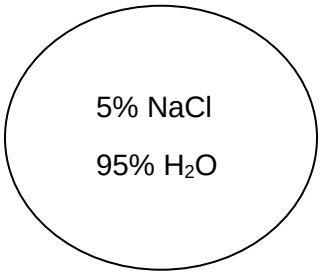


97% NaCl
3% H_2O

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

b. The cell will _____ (Hypertonic, Hypotonic, Isotonic).

2.

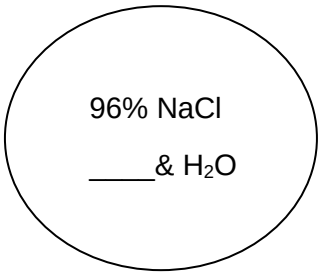


5% NaCl
95% H_2O

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

b. The cell will _____ (Hypertonic, Hypotonic, Isotonic).

3.

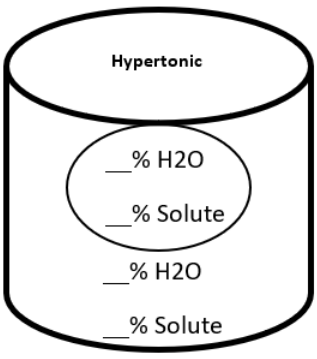


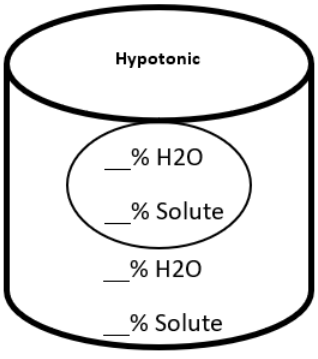
5% NaCl
_____% H_2O

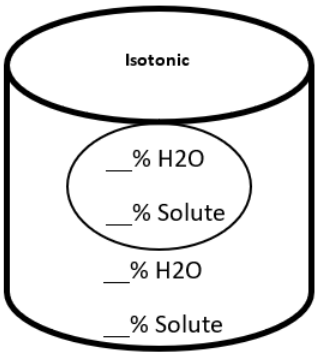
a. Water will flow _____ (into the cell, out of the cell, in both directions).

b. The cell will _____ (Hypertonic, Hypotonic, Isotonic).

Below, fill in the examples of a cell in Hypertonic, Hypotonic, and Isotonic solutions.







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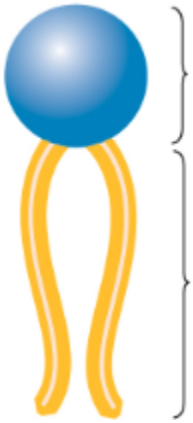
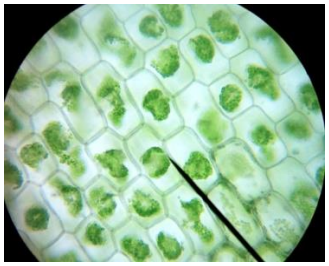
Label the structure below:



_____

_____

What kind of solution are these cells in? How do you know?

1. 

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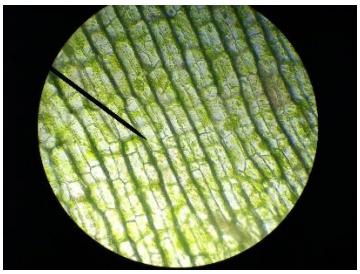
2. 

_____

_____

_____

_____

3. **If a cell uses energy to transport minerals into it, what does that tell you about the concentration of minerals inside and outside the cell?**

_____

_____

_____

4. **Define: Endocytosis**

_____

_____

_____

5. **Define: Exocytosis**

_____

_____

_____

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Part 1: Draw and Describe

1.Draw a phospholipid bilayer and label the parts. Include a protein channel. Describe what molecules can get in the lipid bilayer and what can get through a protein pump.

2. Draw an animal cell in the following solutions. Use percentages to show whether the solution is hypotonic/hypertonic/isotonic relative to the cell. Describe what happens to the cell when place in each solution.

3. Using the information above, describe what happens when a plant cell is placed in each solution.

Part 2: Explain: the following terms in relation to the cell membrane.

1. Homeostasis:
2. Osmosis:
3. Diffusion:
4. ATP:
5. Endocytosis:
6. Excocytosis:

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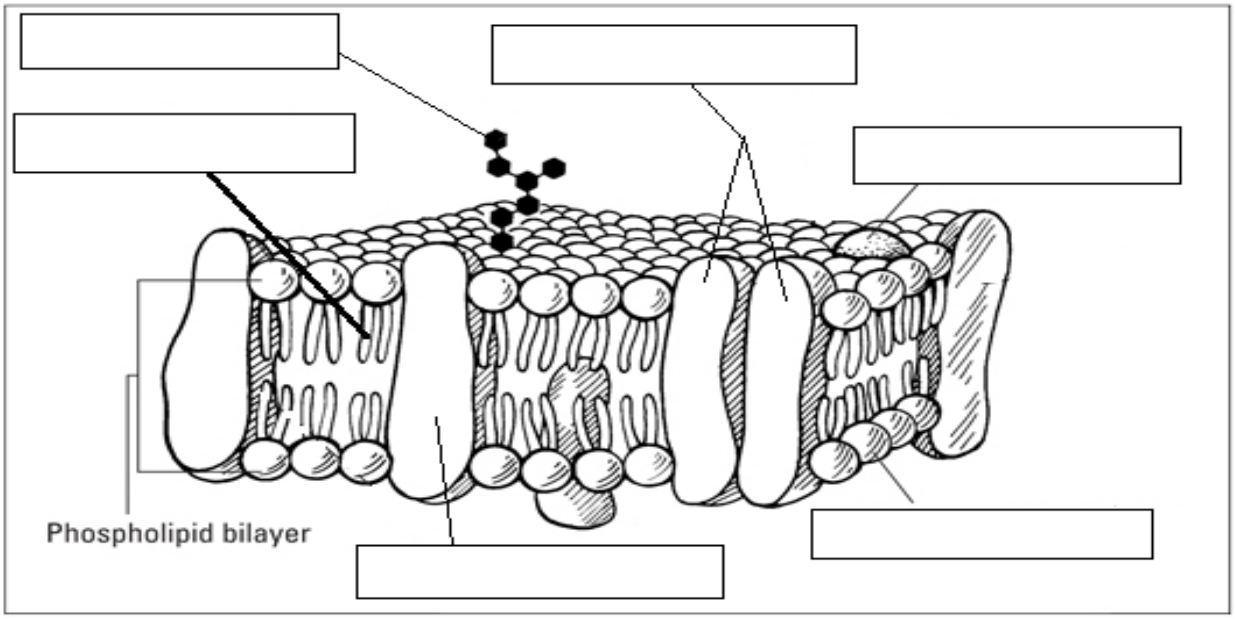
Part 3: Label with the name and function

1. What is this a diagram of? _____ also know as the "_____" Why is it called the fluid mosaic model?



Part 4: Compare and Contrast