

### Transport REVIEW

Answer the following questions on your own paper.

1. Draw and label the parts of a cell membrane include phospholipids, proteins, and cholesterol.
2. Define: active transport, passive transport, simple diffusion, osmosis, facilitated diffusion, endocytosis, exocytosis, protein pump, hypertonic, isotonic, hypotonic
3. For the various types of transport from #2, give an example of a substance that uses each type of transport to get through the membrane.
4. Explain **diffusion** with a picture or diagram.
5. Explain **facilitated diffusion** with a picture or diagram.
6. Write or draw a real-life example of **diffusion**.
7. What is **osmosis**?
8. Draw a Venn diagram to compare/contrast **diffusion** and **osmosis**.
9. In general, describe and draw what would happen to a cell if placed in the following environments.
  - a. **Isotonic** solution:
  - b. **Hypotonic** solution:
  - c. **Hypertonic** solution:
10. Draw an arrow in the direction of **osmosis** for each of the conditions. Assume the membrane is *not permeable* to sucrose.
11. Intravenous solutions (IV's) must be prepared so that they are **isotonic** to red blood cells. A solution of 99.1% water and 0.9% salt is **isotonic** to red blood cells.
  - a. Explain what will happen to a red blood cell placed in a solution of 99.3% water and 0.7% salt.
  - b. Explain what would happen to a red blood cell placed in a solution of 90% water and 10% salt.
12. Draw and describe a plant cell in a **hypotonic** solution. How will a plant cell respond differently than an animal cell and why?
13. Draw and describe a plant cell experiencing plasmolysis. What type of a solution (hypo-, hyper-, or isotonic) would cause **plasmolysis**?
14. What would happen to the **mass** of a cell in a hypertonic solution? A hypotonic solution? An isotonic solution? Why?