

Name _____ Date _____ Period _____

Biology Homework 1-6: Part A

Use your **journal** as a reference tool in addition to the information provided below. Circle your answer choices and justify your answers.

In biology class, students conducted an experiment to test if corn starch can pass through a plastic bag. They poured corn starch into a plastic bag and sealed it with tape. Next, they placed the plastic bag with corn starch into a beaker of Iodine solution. Over time, the iodine diffused through the plastic bag and caused the corn starch that was originally white to change to a blue-black color.

1. What is the dependent variable for this experiment? (Hint: The dependent variable is the responding variable that is measured.)
 - a. Corn Starch Solution
 - b. Color Change
 - c. Iodine Solution
 - d. Plastic Bag

Justification -

2. A student filled a plastic bag with a starch solution and placed the bag into a beaker filled with distilled water to soak overnight. The next day, the student observed that the plastic bag had gained mass. The student tested for starch in the beaker by adding a few drops of iodine. No color change occurred. The results of this experiment demonstrate that the plastic bag is _____.
 - a. permeable
 - b. impermeable
 - c. selectively permeable
 - d. a proton pump

Justification –

3. Vocabulary. Match the following words with the correct definitions.

_____ homeostasis	diffusion of water from high to low concentration
_____ osmosis	movement of molecules from high to low concentration
_____ passive transport	a stable, internal environment

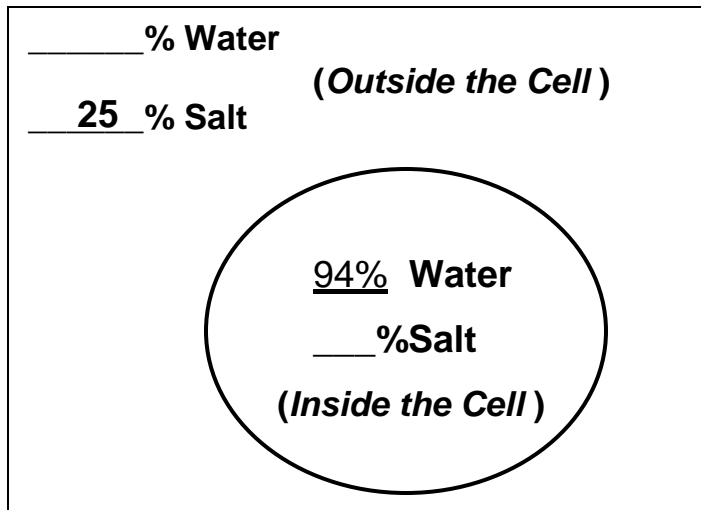
A **solution** is made of a solvent and a solute. The solvent is a fluid in which the solute is dissolved.

Isotonic Solution - The concentration of solutes is equal inside and outside the cell.

Hypertonic Solution - The concentration of solutes is higher outside the cell.

Hypotonic Solution - The concentration of solutes is lower outside the cell.

4. Fill in the blanks in the below. Then answer the questions about the osmotic solution.



- What is the **solute**?
- What is the **solvent**?
- Where is the higher concentration of solute?
- Where is the higher concentration of water?
- Which direction will the water move?
- What type of osmotic solution is shown?