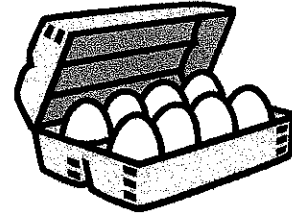


Name _____

Egg Osmosis DEMO**Problem:** To observe osmosis in a cell

Background Information: Osmosis is the diffusion of water across a selectively permeable membrane. This means that water can go through membranes from areas where there are a lot of water molecules to areas where there are not so many water molecules.

To perform their functions, cells must keep an internal steady state even when the environment outside of the cell is changing. This steady state is called homeostasis. Homeostasis maintained in part by controlling the movement of materials into and out of the cell. To achieve this control, cells are surrounded by a membrane that can tell different substances apart, and can slow down or stop the movement of some substances while allowing others to pass through freely. Because not all substances can go through the cell membrane equally well, the membrane is said to be *differentially*, or selectively permeable.

Selectively permeable membranes are those that have openings called pores that let water, oxygen, carbon dioxide and certain other small molecules go through the membrane.

Cells in the human body need a constant supply of oxygen and water. They are also making carbon dioxide as a waste, and this needs to be removed from the cell. These substances can move into and out of a selectively permeable membrane around a cell through the process of osmosis.

Materials:

1 raw egg	Large beaker	Vinegar
Graduated cylinder	Spoon	Corn syrup
Distilled water		

Observations:

Day 1 – Raw Egg:

Day 2 – Egg soaked in vinegar:

Draw a diagram of the egg in the beaker. Use arrows to show the movement of particles.

Day 3 – Egg soaked in corn syrup:

Draw a diagram of the egg in the beaker. Use arrows to show the movement of particles.

Day 4 – Egg soaked in water:

Draw a diagram of the egg in the beaker. Use arrows to show the movement of particles.

Questions & Conclusions:

1. When the egg was placed in the water, which direction did the water molecules move? Explain your answer.
2. Why do grocery stores spray their fresh produce with water?
3. If a shipwrecked crew drank salt water, they could die. Explain why.
4. If a bowl of fresh strawberries is sprinkled with sugar, a few minutes later they will be covered with juice. Explain why this happens.