

Tonicity of a solution affects the movement of water into or out of a cell through its membrane. There are three types of solutions that affect the movement of water by osmosis:

Isotonic: No net movement of water. Example Solution: 0.95% NaCl

Hypertonic: Water moves out of the cell into the concentrated solution, 10% NaCl

Hypotonic: Water moves into the cell from the dilute solution, such as distilled water

For this experiment you will need

1 Large Russet Potato cut into long slices of equal size (similar to large French fries) from the center of the potato. (3 inches x 1 inches)

Distilled Water

¼ cup table salt in 1 cup water

2 bowls with the labeled water solution (Distilled and Salt)

Saran Wrap (2 pieces to cover bowls)

Large Rubber bands

Procedure:

Measure the length of the potato pieces and record in chart provided under initial length.

Place the pieces in their respective water solutions; cover with saran wrap and tightly secure saran wrap with rubber bands

Leave the potatoes in the solutions for at least 2 hours.

Remove the potato slices, measure, and record in chart provided under final length.

Calculate the change in length

Explain what happened with water movement with regards to each of the potato slices.

	Distilled Water	Salt Solution
Initial Length (mm)		
Final Length (mm)		
Change in Length (mm)		