Name: _____ Date: _____

# Diffusion and Osmosis

1. Why don't red blood cells swell or shrink in blood? - Red blood cells do not swell or shrink in blood because blood is an isotonic solution
2. Research the structures that protect plant and animal cells from damage resulting from osmotic pressure. Write a few paragraphs explaining what they are, how they work, and where they are located. - There are different structures within cells that protect plant and animal cells from damage resulting from osmotic pressure. One structure found specifically in plant cells outside the plasma membrane that protects and supports the cell is the cell wall. In animal cells, one structure providing protection against damage resulting from osmotic pressure could be the cell membrane. In addition to this, the vesicles in animal cells help as well. When water enters a vesicle, the vesicle contracts, forcing the water to be squeezed back outside the cell.
3. How do osmotic power plants work? - Osmotic power plants work by utilizing osmosis as the method of generating electricity
4. Compare and contrast diffusion and osmosis. - Diffusion and osmosis both typically refer to the movement of molecules from high to low concentration areas, so they have that in common. However, osmosis refers to the movement of water molecules, where diffusion refers to any molecule.
5. Draw a picture of a cell in isotonic, hypotonic, and hypertonic states.

Isotonic

Hypotonic

Hypertonic