Distinguish, differentiate, compare and explain what is the differences between diffusion and osmosis. Comparison and Difference.

Differences between Diffusion and Osmosis

1. Diffusion is the movement of particles, molecules or ions from the region of their higher free energy to the region of their lower free energy. Osmosis is the movement of solvent of water from the area of its higher free energy or chemical potential to the area of its lower free energy or chemical potential through a semi-permeable membrane.
2. Diffusion can occur in any type of medium while Osmosis occurs only in liquid medium.
3. The diffusing molecules may be solids, liquid or gases. Osmosis involves the movement of solvent molecule only.
4. Diffusion does not require a semi-permeable membrane. A semi-permeable membrane is required for the operation of osmosis.
5. It is purely dependent upon the free energy of the diffusing substance only. Osmosis depends upon the free energy chemical potential of the solvent present on the two sides of the semi-permeable membrane.
6. An equilibrium in the free energy of diffusing molecule is archived in the end. While in the other, an equilibrium in the free energy of solvent molecule is never achieved.