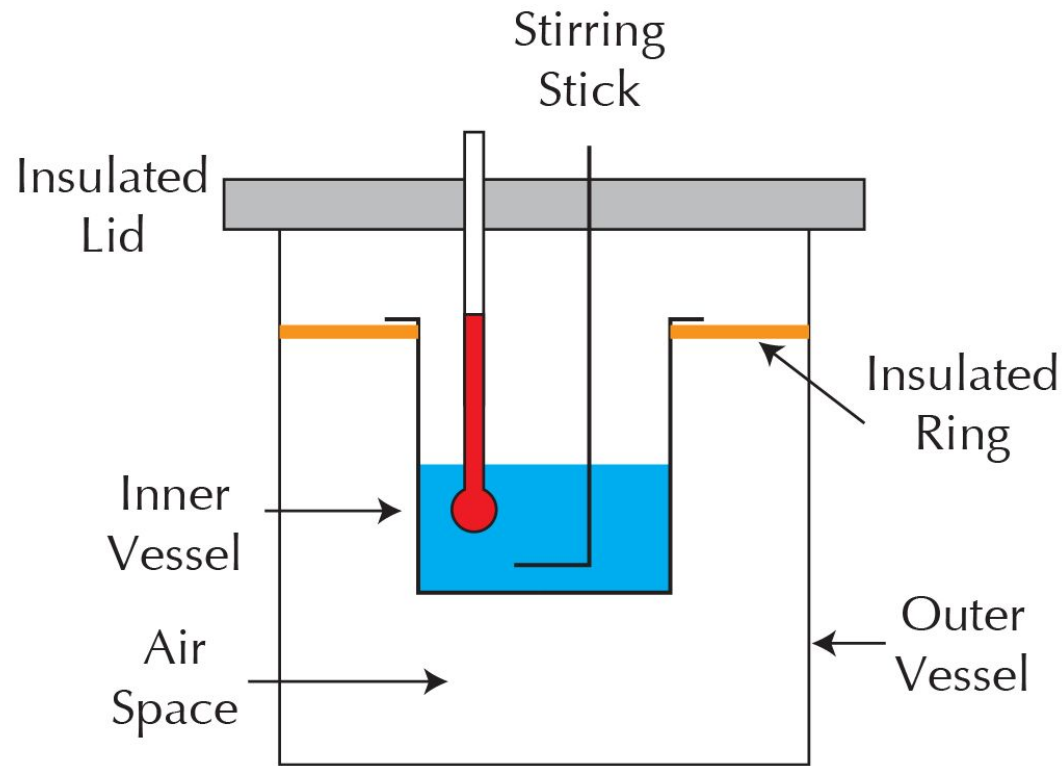


Thermodynamics

Picture Vocabulary

Calorimeter



A device used to measure the heat generated or absorbed by a chemical reaction or physical change

Kinetic Energy



The energy of the object due to its motion

Specific Heat



The quantity of heat required to raise the temperature of a substance by one degree Celsius, measured in either calories or Joules

Temperature



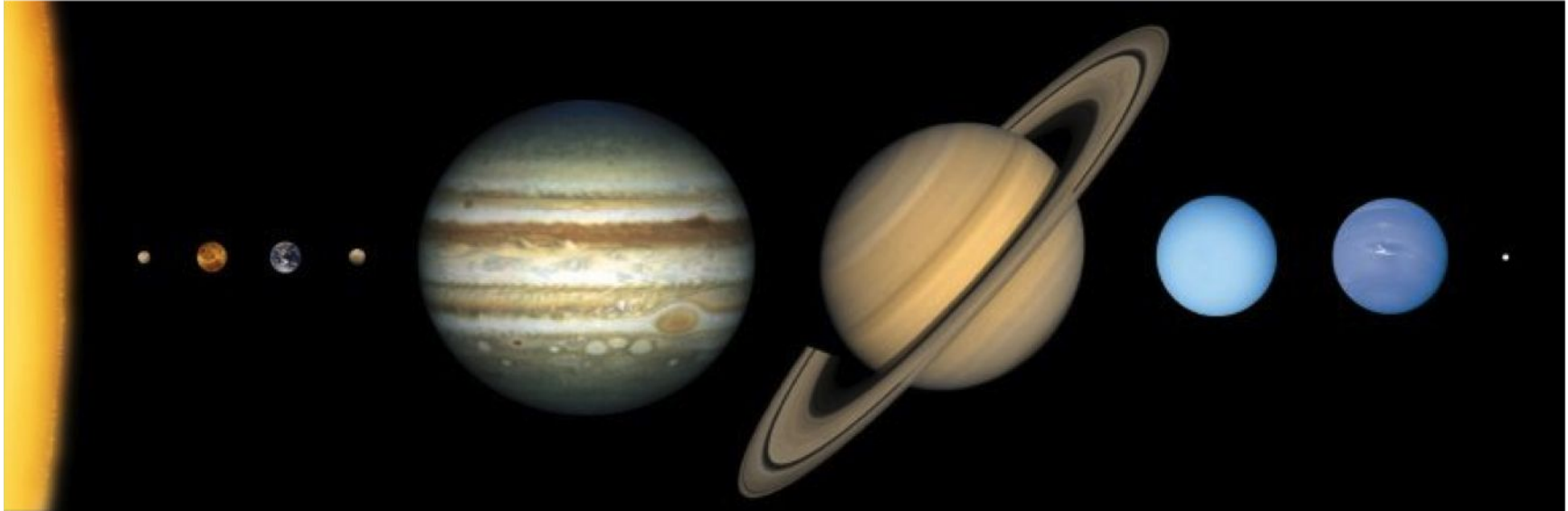
The hotness or coldness of matter as related to the average kinetic energy of the molecules of that substance

Heat



Energy transferred between systems through thermal interaction

System



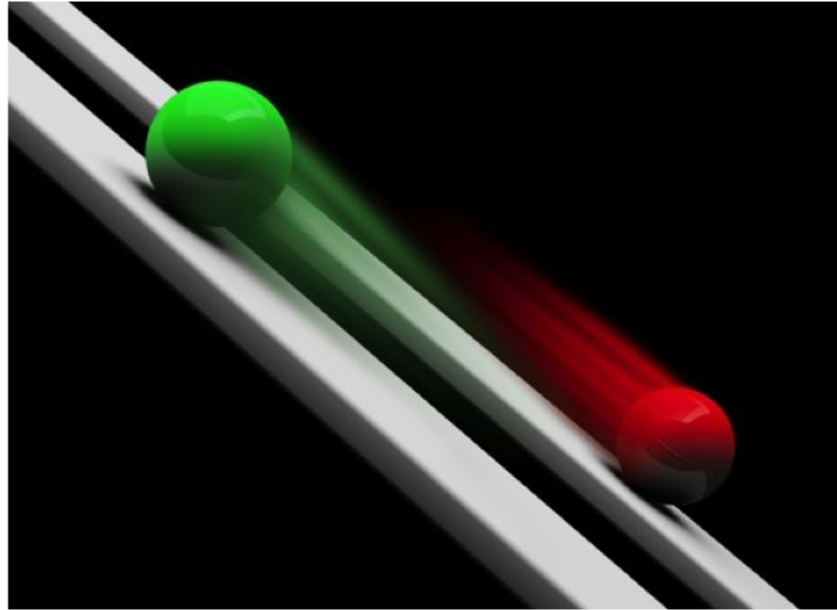
A group of interacting, interrelated, or interdependent elements forming a complex whole

Energy



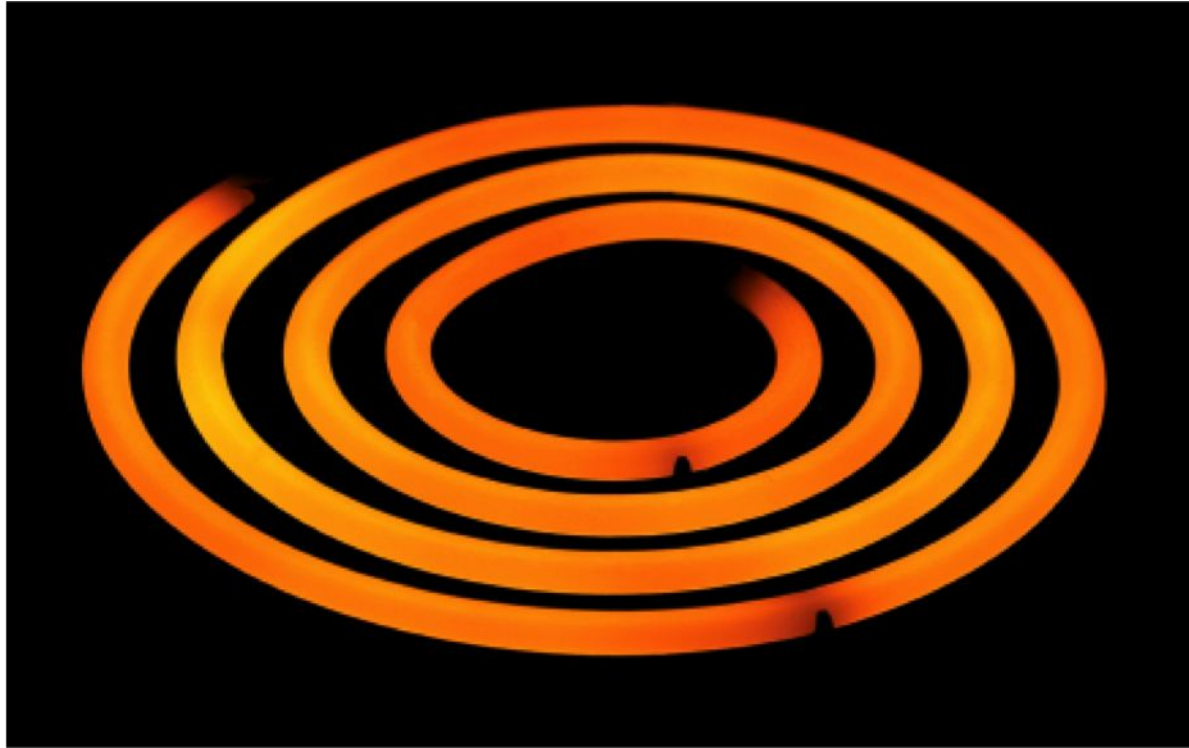
The ability of a system to do work or produce heat

Law of Conservation of Energy



Energy cannot be created or destroyed;
it can only change forms

Thermal Energy



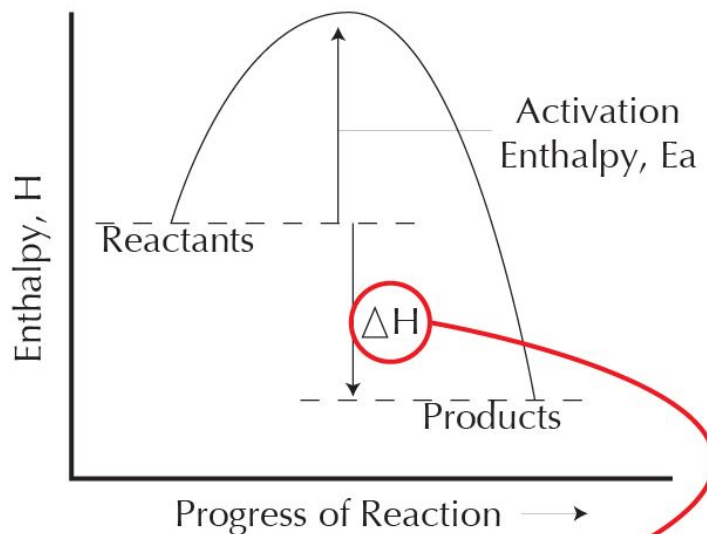
The internal energy of a system, including the kinetic and potential energy of its particles

Heat Capacity



The number of heat units needed to raise the temperature of a substance by one degree

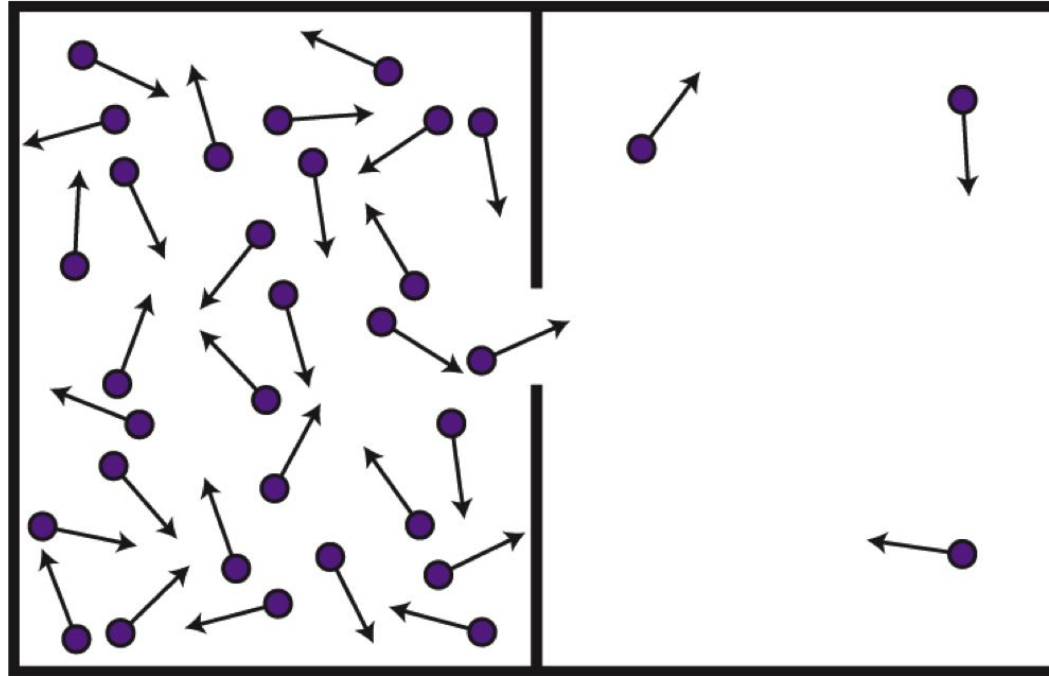
Enthalpy



$$\Delta H = \sum H_{\text{products}} - \sum H_{\text{reactants}}$$

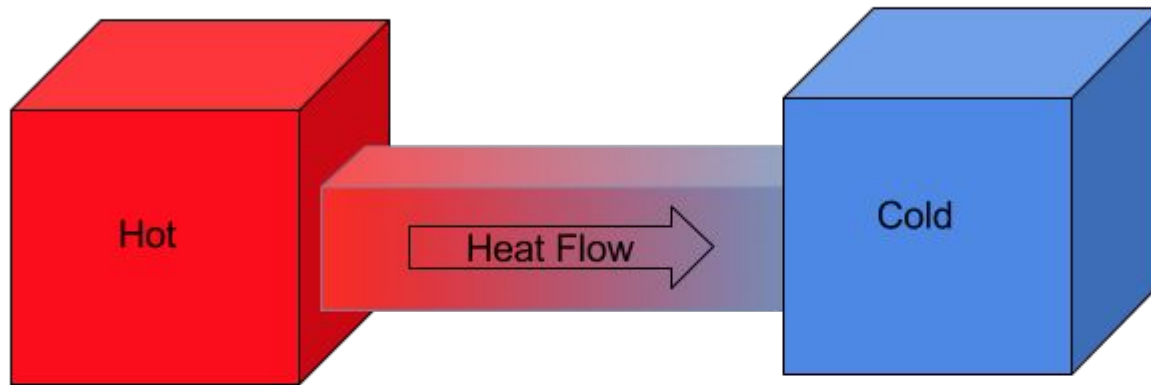
The total heat content of a system

Entropy



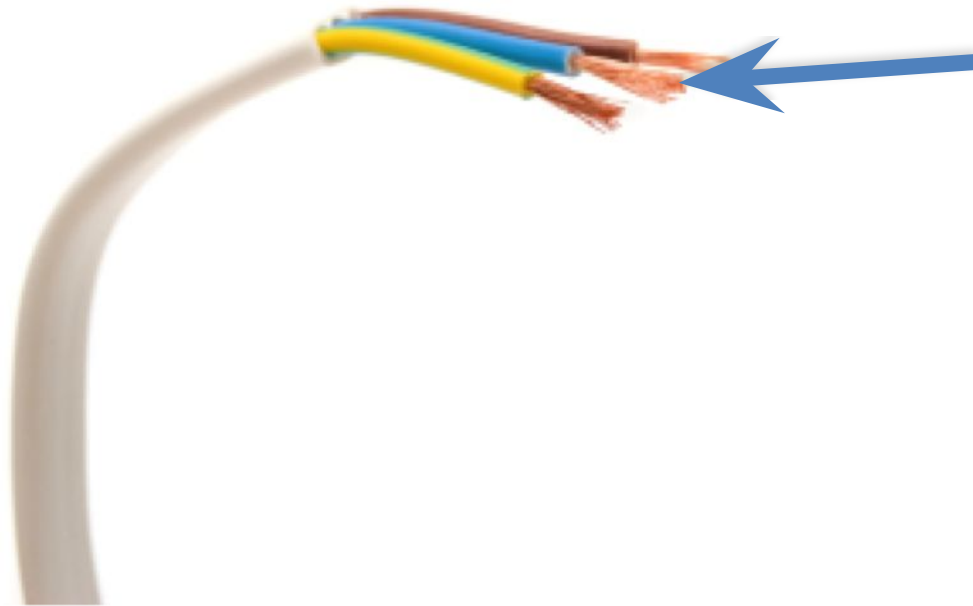
A measure of disorder within a system

The Second Law of Thermodynamics



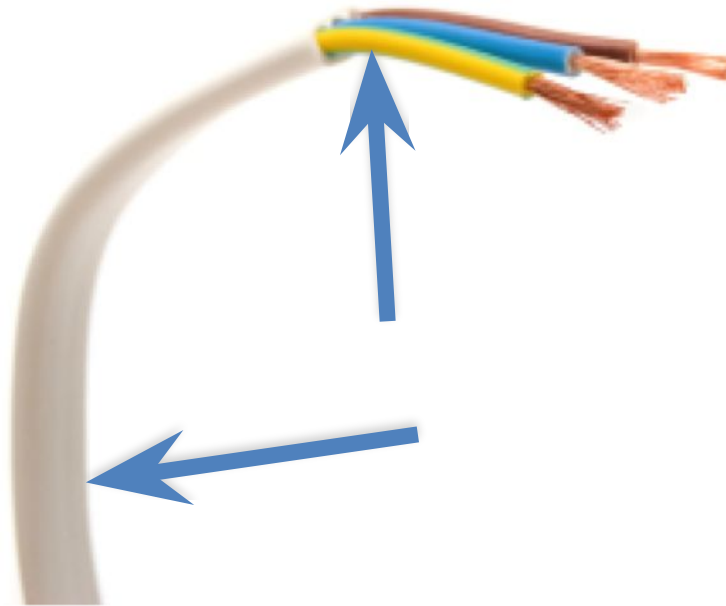
A law which states that the total energy of a system will always lead to increased entropy

Conductor



Materials that allow electrons to flow freely from particle to particle

Insulator



A substance that does not allow electrical or thermal energy to pass through it