Laws of Thermodynamics

Thermodynamics is the study of change in energy associated with macroscopic processes and is based on three laws of thermodynamics known as

- first law of thermodynamics
- second law of thermodynamics
- third law of thermodynamics

Previously, you have encountered the **first law of thermodynamics** that is defined as *energy cannot be created or destroyed, but it can be converted from one form to another, but*. One way to understand these changes is to measure the amount of heat absorbed or given off by a chemical reaction at constant pressure, this quantity chemist call it as change in enthalpy (ΔH).

The **second law of thermodynamics** explains why chemical processes tend to favor one direction, either forward or backward, based on the concept of entropy.

The **third law of thermodynamics** is related to the second law that describes what happens to entropy of the system when it is driven to *absolute zero*.

In the following sections, we will examine the second and third law of thermodynamics and how they are applied to chemical reactions to understand their behavior.