

FAQ's

Explain the 1st & 2nd laws of Thermodynamics.

Laws of Thermodynamics

1st Law – Energy can neither be created or destroyed, but can be converted from one form to another.

2nd Law– Energy always travels from a warm object to a colder one. The rate of heat travel is in direct proportion to the temperature difference between the two bodies.

Define Temperature and its unit of measurement.

Temperature is the scale to measure the intensity of heat. Fahrenheit scale difference between boiling and freezing point is divided into 180 equal increments. Centigrade scale difference between boiling and freezing point is divided into 100 equal increments.

Explain Change of State with suitable examples.

Most common substances can exist as a solid, a liquid or a vapor, depending on their temperature and the pressure to which they are exposed. Heat is absorbed even though no temperature change takes place when a solid changes to a liquid, or when a liquid changes to a vapour. The same amount of heat is given off when the vapour changes back to a liquid and when a liquid is changed to a solid.

The heat energy that was absorbed by the water became molecular energy, and as result the molecules re-arranged themselves, changing ice into water and water into steam. When the steam condenses back into water, that same molecular energy is again converted into heat energy.

Define Saturation Temperature.

The condition of temperature and pressure at which both liquid and vapor can exist simultaneously is termed saturation. A saturated liquid or vapor is one at its boiling point. At

higher pressures the saturation temperature increases and with a decrease in pressure, the saturation temperature decreases.

Explain the Pressure temperature relationship of liquids.

At atmospheric pressure water boils at 100°C. If pressure is increased above atmospheric pressure, the boiling point is higher and if the pressure is decreased below atmospheric pressure the boiling point is lower. The refrigerants have the same properties like that of water except that the range of their boiling point is lower. The temperature of the liquid depends upon the surrounding pressure also.