HEAT AND TEMPERATURE

Heat is a form of energy called thermal energy. When we place a pot of cold water on a heating stove, after a few minutes the water feels hotter to the touch. We say that heat flowed from the heating stove to the cold water. It is our common experience that heat always follows from a hot to a cold object. Thus when placed in contact with a cold object, a hot object always warms a cold object. Heat energy is the energy that is transferred from a hot object to a cooler object as a result of their difference in temperature.

Temperature is the degree of hotness or coldness of an object. It is a scalar quantity. It is a property of an object which decides which way heat will flow when it is placed in contact with another object. Thermometers are used to measure temperature. The commonest thermometer available is the Celsius-scale thermometer in which the temperature is measured in degree Celsius (^{o}C).

Apart from ^{o}C, temperature can also be measured in Kelvin (K) or degree Fahrenheit (^{o}F).

Effects of Heat

Heat can have several effects on an object as follows:

- It changes the temperature of a body.
- It changes the state (solid, liquid, or gaseous) of the body.
- It causes the expansion or increase in dimensions of a body.
- It changes the physical properties, like electric resistance, magnetism, conductivity, elasticity, density, and colour of a body.
- It results into the emission of electrons from the surface of metals in a process called thermionic emission.
- Heat may bring about changes in the chemical properties of a body.

- Heat also increases the pressure and volume of liquids and gases.