HEAT

Heat :

- The energy transferred from one body to another due to a temperature difference between them is called heat.
- Always flow from a body at higher temperature to a body at a lower temperature.

Sources of Heat :

- fire
- Inflammable substance – easily catch fire. ex: LPG, Paper
- Non- flammable substance - fire resistant ex: sand, water
- sun
- electricity

Thermometer :

Principle : A given length of liquid (mercury) column rises with the rise in temperature.

Qualities of good thermometer:

- Thermometer bulb – thin walled
- Stem – made of thick glass
- Narrow capillary bore
- Liquid used
  - should expand uniformly
  - low freezing point
  - high boiling point
  - non volatile
  - low specific heat capacity
  - available in pure state
  - not stick to glass

Thermometric Liquids: Mercury , Alcohol

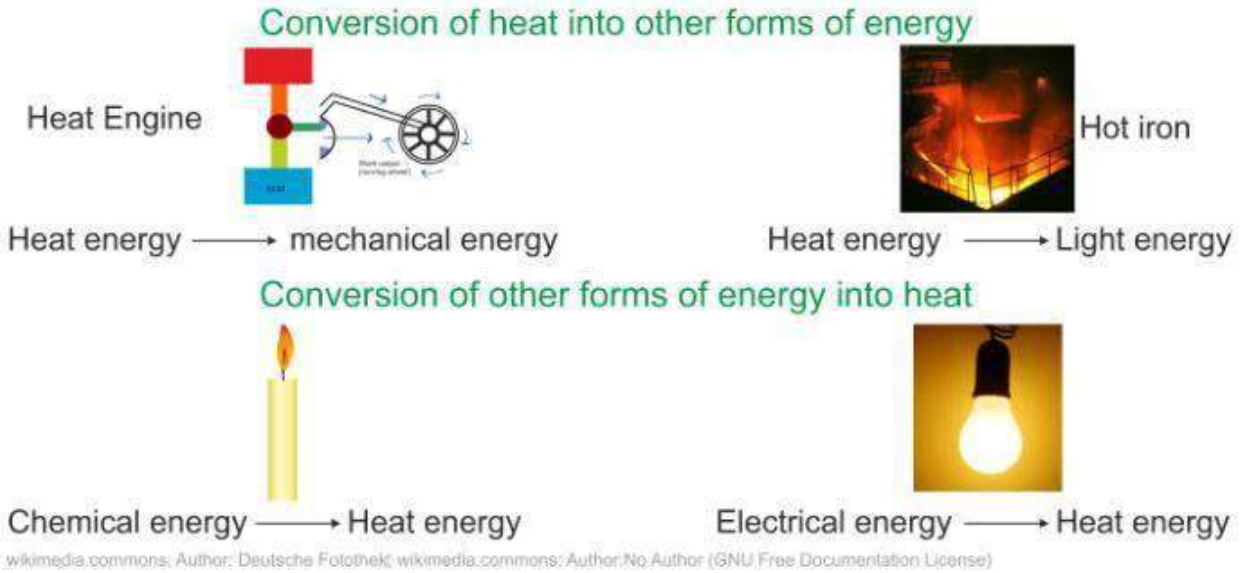
Temperature :

It is the degree of hotness or coldness of the body. We can use a clinical thermometer to measure our body temperature. Heat is transferred from a body at a higher temperature to a body at lower temperature.

Measurement of Temperature

Units : ^{0}C , ^{0}F and K
SI unit : kelvin (K)
Instrument used : Thermometer

Conduction, Convection, and Radiation are the different methods of heat transfer. Heat passes easily through heat conductors. Heat does not pass easily through insulators. Dark colored objects absorb heat more easily through radiation.



Transfer of heat

Conduction	Convection	Radiation
The process of heat transfer along a body from one molecule to another, without actual motion of molecules. e.g. Heating of metal handle of a pan	The process by which heat is transmitted through liquids and gases from places of higher temperature to lower temperature by actual movement of molecules. e.g. Heating of water in a pan.	The process by which heat is transferred from one body to another along straight lines without affecting the intermediate medium. e.g. In microwave the food gets heated without heating the intermediate medium

Seasons and Clothes

Summer Clothes

- In hot weather, white or light coloured clothes suit better, because they reflect the heat away and keep the body cool, whereas black clothes retain heat.
- During summer, clothes made of cotton are preferred as they absorb the sweat and their air spaces allow the circulation of air which helps faster evaporation of the sweat. This keeps the body cool and comfortable. Also loose clothes allow air to circulate below the fabric.
- Thus, loose clothes are more suited during summer than tight fitting clothes. Hence summer wear should be breathable, light-coloured and loose fitting rather than dark and tight fitting.

Winter Clothes

- In cold weather, dark coloured clothes have to be worn as they are good absorbers of heat. Also woolen garments are suitable for cold weather.
- As wool is a very good insulator and a poor conductor of heat, woollen clothes keep the body warm and protect it from the cold winds. Also, the air trapped between the woollen fibres prevents the flow of heat from the body to the cold surroundings. It also prevents the cold air from coming in contact with the body.