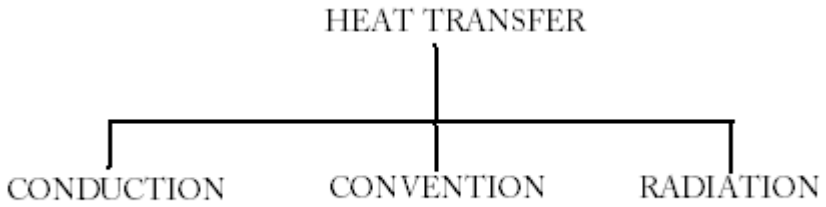
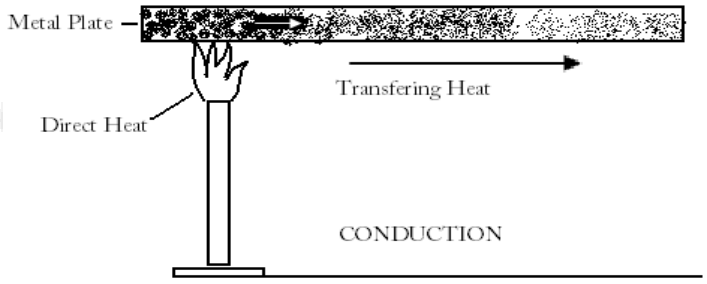
HEAT TRANSFER

Heat is defined in physics as the transfer of thermal energy across a well-defined boundary around a thermodynamic system. Heat transfer is a process function (or path function), as opposed to functions of state; therefore, the amount of heat transferred in a thermodynamic process that changes the state of a system depends on how that process occurs, not only the net difference between the initial and final states of the process.

Methods of Heat Transfer:
Heat can be transfer by the use of three methods-

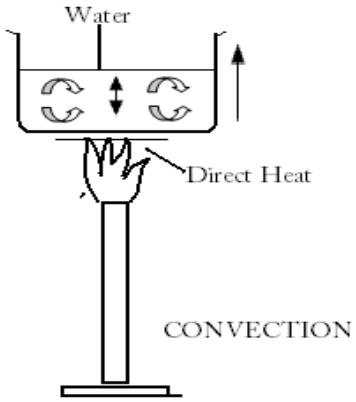


1. Conduction:- Conduction is the process passes of heat through a solid or one solid to another provided, they are in contact with pot on a hot plate. Common example- aluminum, copper etc.



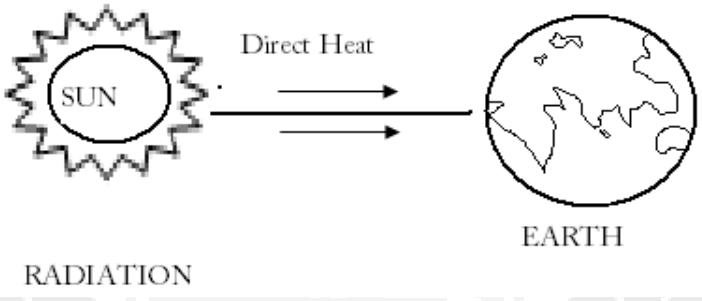
It is the direct flow of heat through a material resulting from physical contact.

2. Convention:- Involves the transfer of heat in liquid medium. For example, water is heated in a saucepan. Convection occurs when warmer areas of a liquid or gas rise to cooler areas in the liquid or gas. Water boiling in a pan is a good example of these convection currents.



In this process heat transfer between a surface and adjacent fluid (gas, air or liquid) and by the flow of fluid from one place to another, induced by temperature.

3. Radiation:- It is the process in which the heat passes by the use of electric ray or gas chamber and from a hot object.



It's the process of thermal energy through matter of space by electro-magnetic waves.