Radiation

The heat of the sun cannot reach us either by conduction or by convection. This is because there is (mostly) empty space (vacuum) between the sun and the earth. Both conduction and convection require a material medium for the transfer of heat.

It follows then that, there must be a third method of heat transfer. We call this method of heat transfer as **radiation.** Radiation may be defined as a method of heat transfer in which no material is required.

The heat energy, received by an object through radiation, is called **radiant energy**. We say that all hot objects give out or radiate heat energy.

Absorption of Heat:

The heat that is radiated by the objects is reflected, absorbed.

The heat increases the temperature of the object.

Dark-colors are capable of absorbing heat. So, we feel comfortable wearing them in winters and we use a black umbrella to go out in the sun.

Light colors reflect heat and so we feel comfortable wearing them in summers.

We use woolen clothes in winters. Though wool is a poor conductor of heat, it can trap air (again a bad conductor of heat) in between the fibres which does not allow the heat from the body to escape into the surroundings and thus keeping us warm.