Science: Energy Transfers Knowledge Organiser

Year 8: TERM 2 Date : _____

Good **conductors** are materials that transfer heat energy

Poor conductors are materials that are not very good at transferring heat energy .They are also called **insulators**.

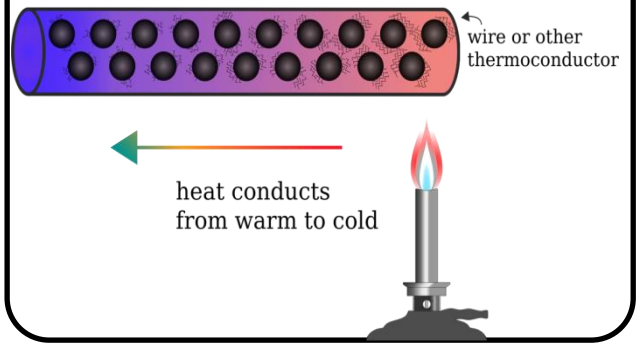
Conductors	Insulator
Iron	Rubber
Copper	Paper
Gold	Wood
Silver	Plastic
Aluminium	glass

Energy can be transferred from a hot object to a cooler one by:

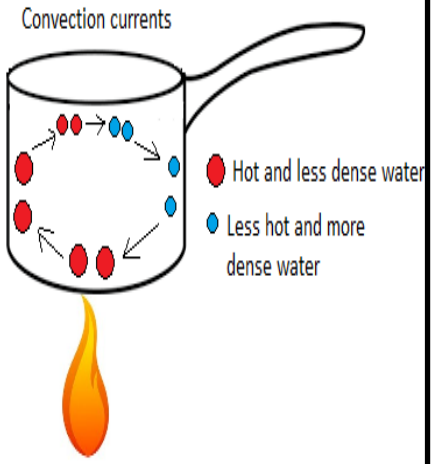
1. conduction (if they are touching each other) 2. convection (In fluids) 3. radiation (as waves)

Conduction

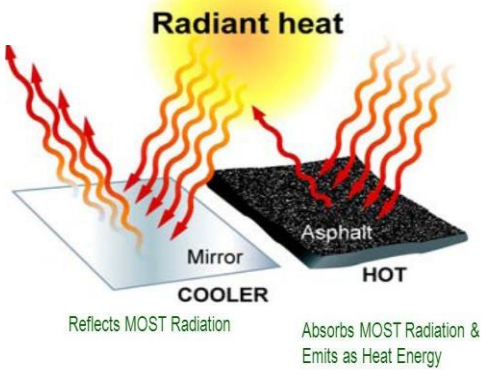
molecules in solid objects don't "move" - they vibrate or "jiggle"



Convection



Radiation: heat transfer in the form of electromagnetic waves, including light.



KEY WORDS

Joule (J)	The unit energy is measured in
^0C	The unit temperature is measured in
Temperature	A measure of hotness, it tells us how fast atoms are moving in a substance
Conduction	The transfer of heat energy in a solid as vibrations are passed on from one atom to the next
Conductors	Materials which conduct well for example metals
Insulators	Materials which don't conduct well such as gases, liquids or plastics
Convection	The transfer of heat energy by the movement of particles in a gas or liquid
Convection current	The current set up in a gas or liquid as warmer, less dense liquid rises and cooler denser liquid falls.
Density	A measure of how much mass there is in a given volume, it tells us how spread out particles are.
Radiation	The transfer of heat energy through any space, even a vacuum, by electromagnetic waves
Infra-red	The electromagnetic wave, slightly longer than light waves, that we feel as heat radiation.
Matt surfaces	Rough surfaces, such as cloth, that are good at absorbing heat radiation and also good at emitting it.
Emit	To give out
Shiny surfaces	Smooth surfaces which are good at reflecting heat radiation but poor at absorbing or emitting it.