

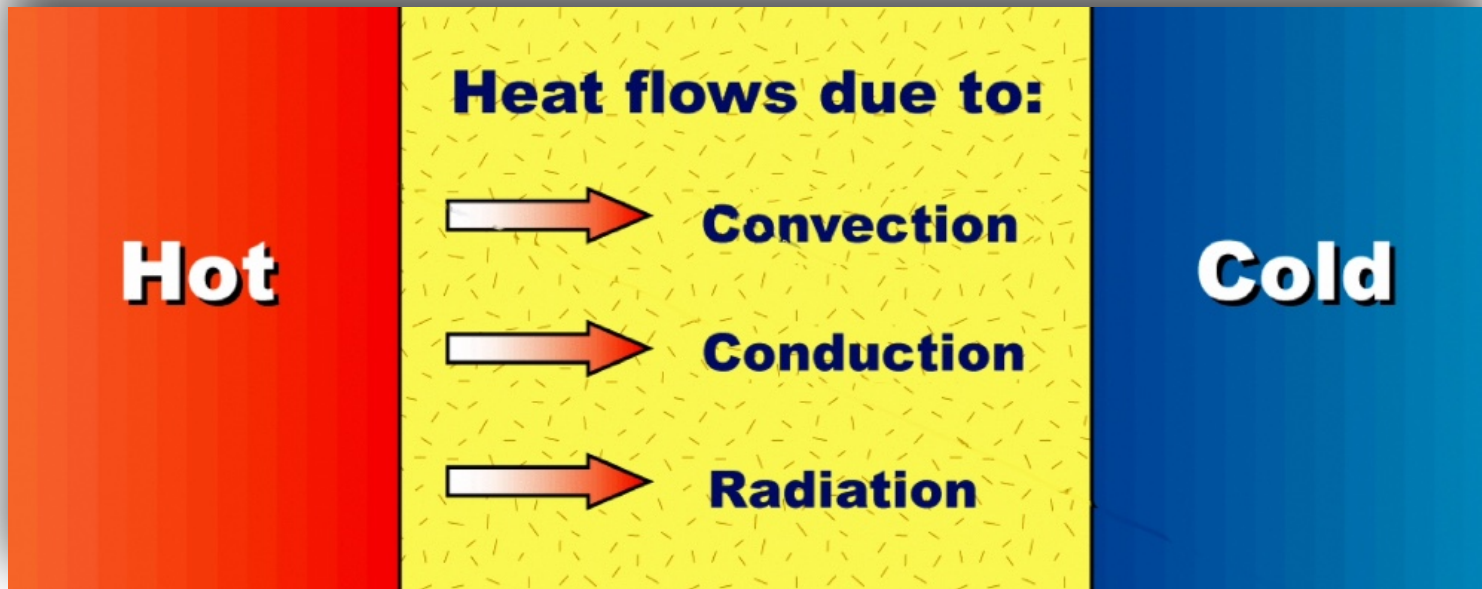
Thermal Energy and Heat

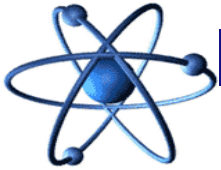
Heat Travel



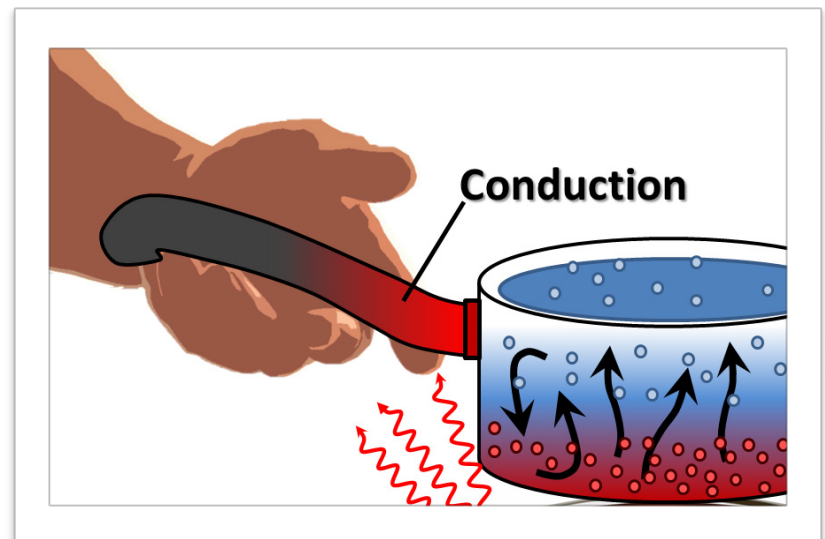
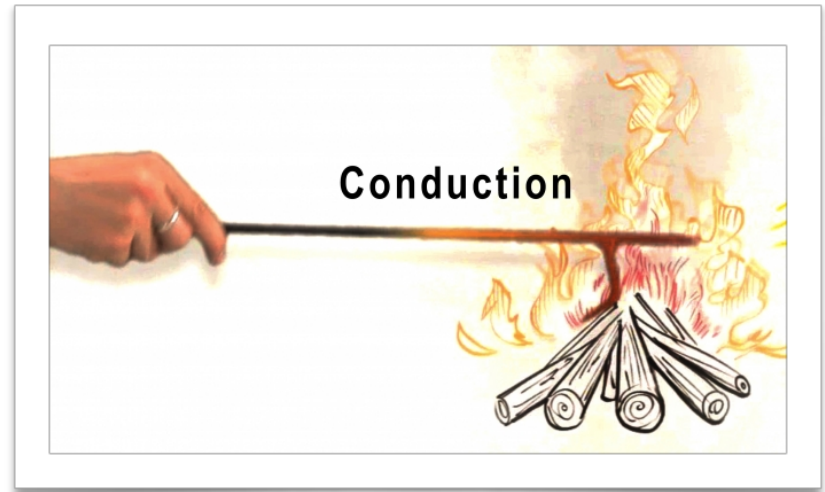


There are three ways that heat can travel:



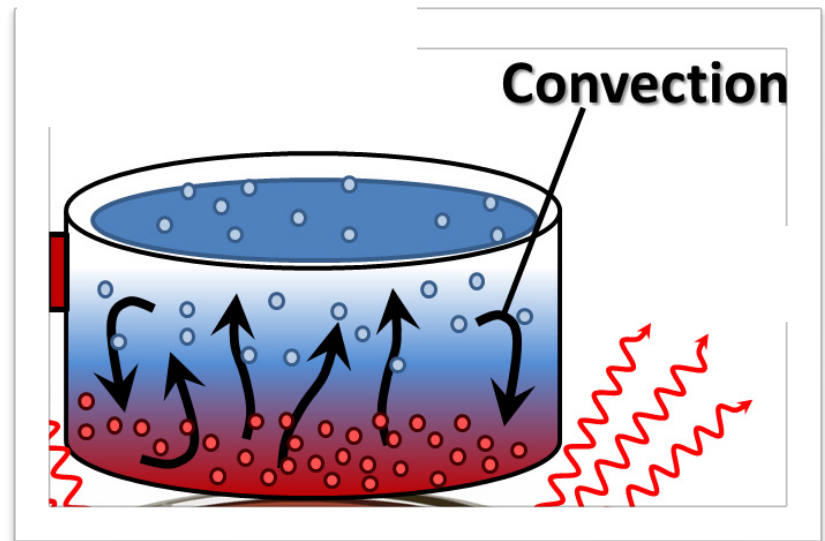


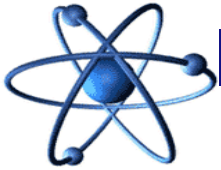
1. Conduction – the transfer of energy through a solid (by the collision of particles).





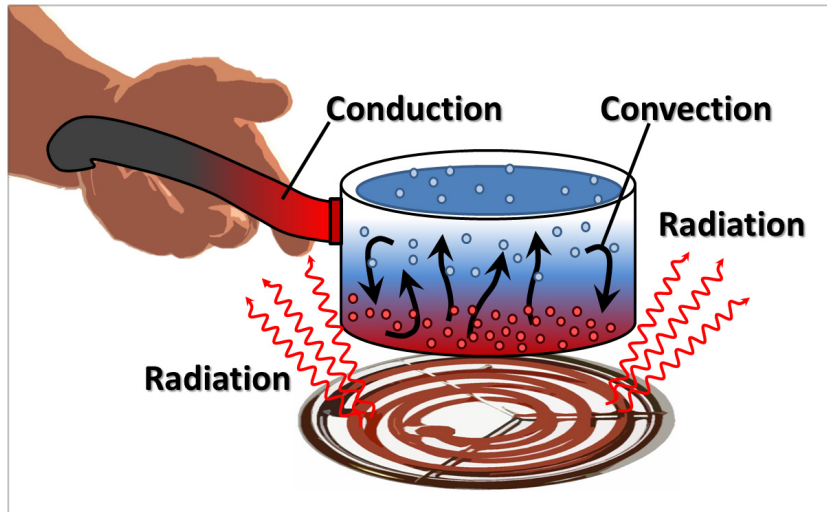
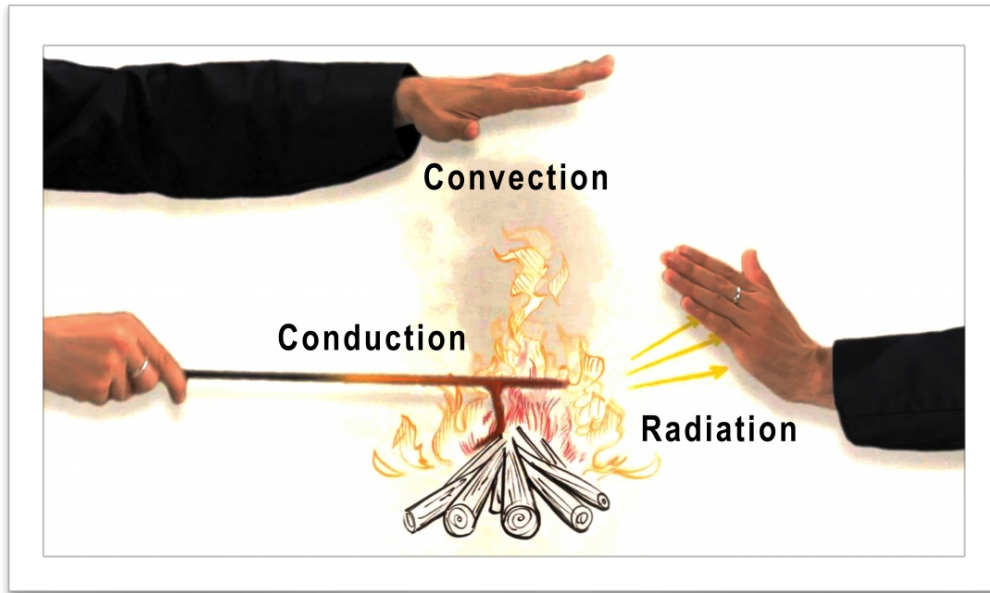
2. Convection – the transfer of thermal energy through a liquid or gas

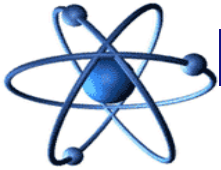




3. Radiation – the transfer of thermal energy in the form of electromagnetic waves.





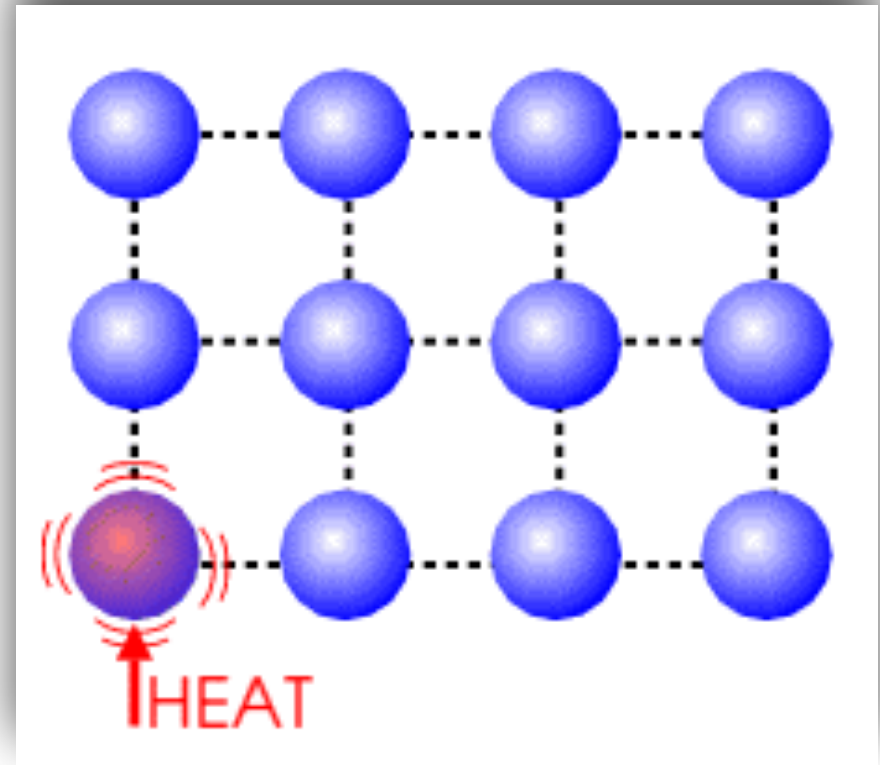


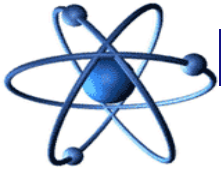
Conduction

In solids, particles are packed closely together

As one particle is heated it gains energy, moves faster, and bumps into the other particles which transfers the energy.

These collisions continue and the thermal energy is transferred through the solid object.





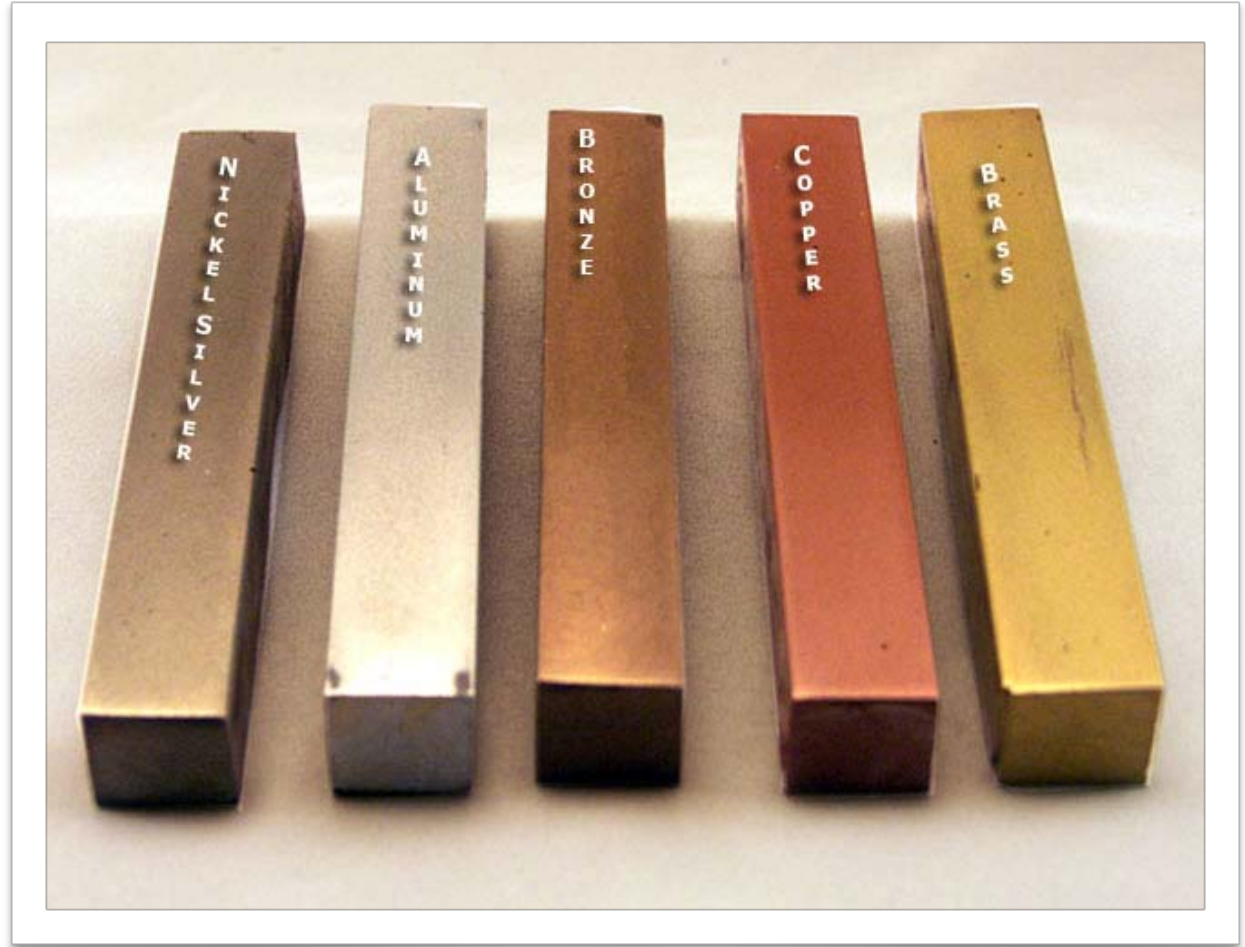
**All solids do not
conduct energy
equally – some are
better than others.**





Which metal is the best conductor?

- Aluminum
- Brass
- Steel
- Copper
- Nickel





Experiment

Metals	Prediction	Results
Steel		
Nickel		
Brass		
Aluminum		
Copper		