



Energy

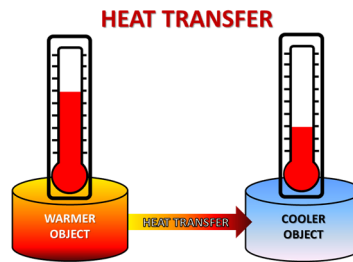
Topic outcome: Understand that temperature changes as the amount of thermal energy increases or decreases. Thermal energy can change by three heat transfers: conduction, convection and radiation.

Temperature

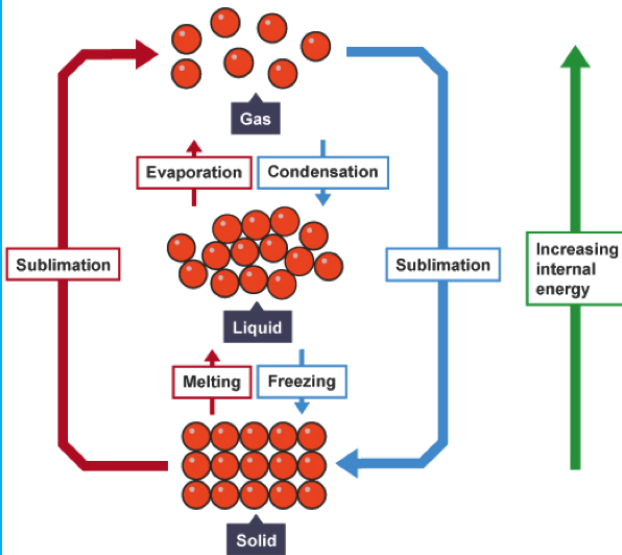
A warm object will transfer heat to a cooler object causing its temperature to... **decrease**.

A cool object will absorb heat from a warmer object causing its temperature to... **rise**.

The temperature will continue to change until it is at...**equilibrium**.



Change of State



- Particles move more as they gain... **thermal energy**
- Particles in solids begin to flow when they melt and take on the properties of...**fluids**
- Particles are free to move randomly when they... **evaporate** and become a gas
- Particles move less when they lose... thermal energy
- Particles move back into a solid arrangement when they... **freeze**

Conduction

- Particles vibrate more when they...**gain thermal energy**
- Particles collide with neighbouring particles thereby...**passing thermal energy through the material**
- Materials can be...**insulators or conductors**

Convection

- Particles vibrate more when they...**gain thermal energy**
- Collisions between particles cause them to...**spread apart from each other**.
- The materials volume increases, decreasing the density causing the... **hot fluid to rise**

Infrared Radiation

- All objects radiate heat
- Infrared radiation is a...**wave of energy**
- No **particles** are required to transfer radiation
- Radiation can pass through a...**vacuum**.



Energy

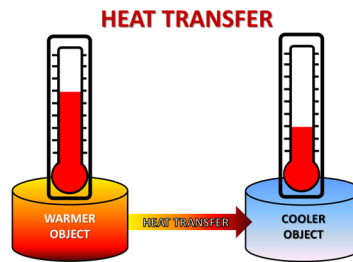
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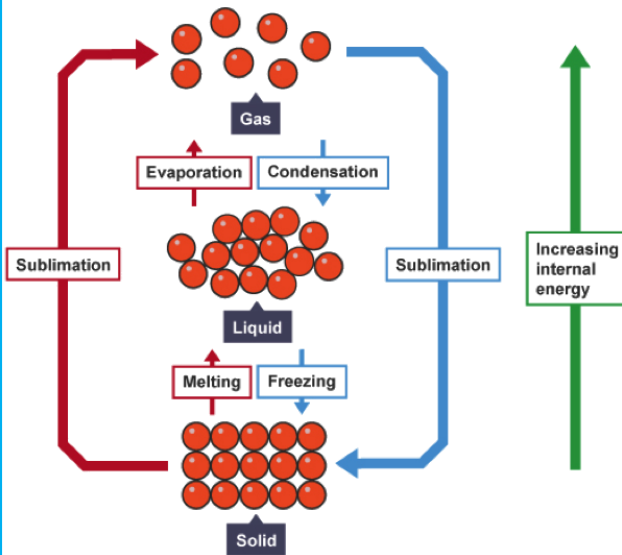
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Conduction

- Particles vibrate more when they...
- Particles collide with neighbouring particles thereby...
- Materials can be...

Convection

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