

Thermal Energy and Matter

6-4

Thermal energy can be added through

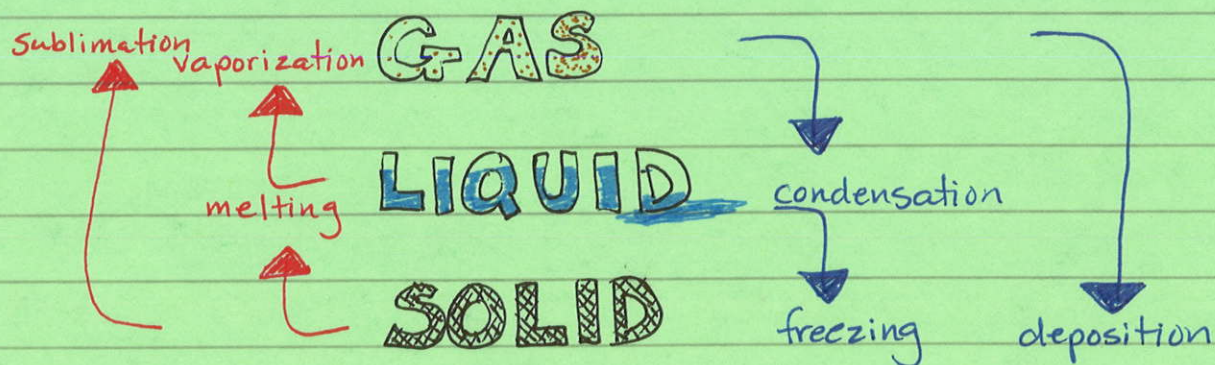
- conduction
- convection
- radiation

This causes the particles to move further apart. This increase in volume is called thermal expansion! Thermal energy flows from warm to cool.

Thermal contraction decreases the volume of a material or substance

Temperature Scales

	Fahrenheit	Celsius	Kelvin
Boiling (H ₂ O)	212°	100°	373
Body Temp	98°	37°	310
Room Temp	70°	21°	294
Fridge Temp	35°-38°	1.6°-3.3°	274.6°-276.6°
Freezing	32°	0°	273



Vaporization →

Boiling - vaporization within a liquid

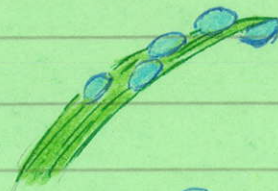
- liquid must reach its boiling point 1st
- temperature remains constant
- continued addition of thermal energy vaporizes the liquid

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Evaporation - vaporization at the surface of a liquid

- this occurs during boiling, but also at lower temps.

Condensation



Dew and frost is the result of condensation overnight when the temperature drops outside.

