

AP Physics - Heat - Latent Heat and Phase Changes

Note Title

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If temperature changes \rightarrow heat was transferred.
However, there are instances when the flow of heat does not result in a change in temperature.

When?

- Phase change \rightarrow when a substance undergoes a physical transformation from one form to another.
- All phase changes involve a change in internal energy

Heat required to change phase

$$Q = mL_v$$

L_v = Latent heat (material property)

L_v = Latent heat of vaporization

L_f = Latent heat of fusion (solid-liquid)

m = mass

Phase changes take Energy

- Energy is required to rearrange intermolecular bonds
- From liquid \rightarrow gas, molecules must be separated

* Heat of vaporization is much greater than heat of fusion because average distances are much greater.