

1. Heat capacity or thermal capacity:

Heat capacity of a body is the amount of heat required to raise temperature of the body by unit temperature difference.

Thus, if the heat capacity of a body is C , then the heat required to raise its temperature by Δt will be

$$\Delta Q = C \Delta t$$

2. Specific heat capacity:

Specific heat capacity of a substance is the amount of heat energy required to raise the temperature of unit mass of the substance by unit temperature difference.

Hence if to raise the temperature of mass m kg of substance by Δt , the amount of heat required is ΔQ then the specific heat C is given by

$$c = \frac{\Delta Q}{m \Delta t}$$

Or the heat required is given by $\Delta Q = m \cdot c \cdot \Delta t$

3. Latent heat:

The phase of the matter changes at constant temperature (called melting or boiling point) but heat is absorbed or released by the substance during the change of state.

The amount of heat required to change state of unit mass of the substance is called its latent heat. Hence if to change the state of m mass heat required is ΔQ then the latent heat is given by

$$L = \frac{\Delta Q}{m}$$

Or $\Delta Q = m \cdot L$

4. Water equivalent:

Water equivalent of a body is the quantity of the water whose thermal capacity is equal to the thermal capacity of the body.

This quantity is used mostly in CGS system of units because in this system specific heat capacity of water is 1 cal/gram/ $^{\circ}$ C thus making calculations easy.