

dQ = amount of heat needed to raise temp of μ mole of the substance by dT °C.

Molar sp heat at constant volume (C_v):

"The amount of heat needed by 1 mole of a gas at constant volume to raise its temp. by 1°C or 1K, is called molar sp. heat at constant volume"

$$C_v = \frac{(dQ)_v}{\mu \cdot dT} \quad \text{--- (3)}$$

$$(dQ)_v = \mu C_v dT \quad \text{--- (4)}$$

Molar sp. heat at constant pressure (C_p)

$$C_p = \frac{(dQ)_p}{\mu \cdot dT} \quad \text{--- (5)}$$

$$(dQ)_p = \mu C_p dT \quad \text{--- (6)}$$