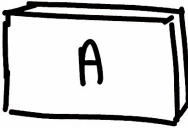
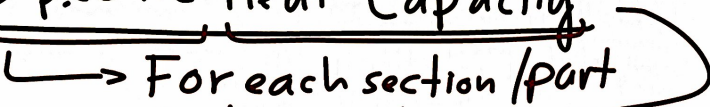


Heat Capacity

Amount of heat (q) to raise the Temperature (T) of an object by 1°C .


 $T_0 = 25^\circ\text{C} \xrightarrow{\text{Inc } T} 26^\circ\text{C} \quad (\uparrow 1^\circ\text{C})$
 $q_0 = 100\text{J} \longrightarrow q_{\text{inc}} = \underline{\hspace{1cm}}?$

Specific Heat Capacity


 For each section / part
 Heat capacity

Amount of heat (q) require to raise
 the Temp of 1 g of a substance by 1 $^\circ\text{C}$
mass
Temperature

Specific Heat (c)

$$q = C \cdot m \cdot \Delta T \quad C = \frac{q}{m \cdot \Delta T} \quad \frac{\text{J}}{\text{g} \cdot ^\circ\text{C}}$$

q = heat (J)

m = mass (g)

units

C = specific heat
Capacity ($\text{J/g} \cdot ^\circ\text{C}$)

ΔT = change in Temp ($^\circ\text{C}$)

derived unit $\leftarrow$ constant (unique for each form of matter)



Specific Heat Problems

$$q_{\text{Al}} = \underline{\hspace{2cm}} \text{ J} \quad C = 0.900 \text{ J/g} \cdot ^\circ\text{C}$$

Al: Aluminum, metal $m = 4.80 \text{ g}$ $\Delta T = \underline{25^\circ\text{C}}$

$$q = C \cdot m \cdot \Delta T \quad \text{+ , inc. T}$$

$$q_{\text{Al}} = 0.900 \text{ J/g} \cdot ^\circ\text{C} \cdot 4.80 \text{ g} \cdot 25^\circ\text{C}$$

$$= \underline{108 \text{ J}} \leftarrow \text{+ , Al inc in T, endothermic}$$