# PQ 1 Questions

Specific Heat

# Q1

- Calculate the amount of heat needed to increase the temperature of 250g of water from 20$^{o}$C to 56$^{o}$C.

# Q2

- Calculate the specific heat capacity of copper given that 204.75 J of energy raises the temperature of 15g of copper from $25^{o}$ to $60^{o}$.

# Q3

- 216 J of energy is required to raise the temperature of aluminium from 15$^{o}$ to 35$^{o}$C. Calculate the mass of aluminium. (Specific Heat Capacity of aluminium is 0.90 J$^{o}$C$^{-1}$g$^{-1}$).

# Q5

- The initial temperature of 150g of ethanol was 22$^{o}$C. What will be the final temperature of the ethanol if 3240 J was needed to raise the temperature of the ethanol?
  (Specific heat capacity of ethanol is 2.44 J$^{o}$C$^{-1}$g$^{-1}$).

# Q6

- How much energy is needed to increase the temperature of 500 g of lead from 20 ºC to 45 ºC? The specific heat capacity of lead is 128 J/kg/ºC.

# Q7

- How much energy is needed to melt 10 g of ice? The specific latent heat of melting for water is 334,000 J/kg.

# Q8

- **How much heat is needed to raise the temperature of a block of copper ( 0.5 kg) from 0°C to 100° C ?** (for copper, c = 386 J / kg K)

# Q9

- **How much heat is needed to raise the temperature of 0.5 kg of water from 0°C to 100° C?** (for lead, c = 128 J / kg K)

# Q10

- **What would be the final temperature of a mixture of 100 g of water at 90°C and 600 g of water at 20°C ?**