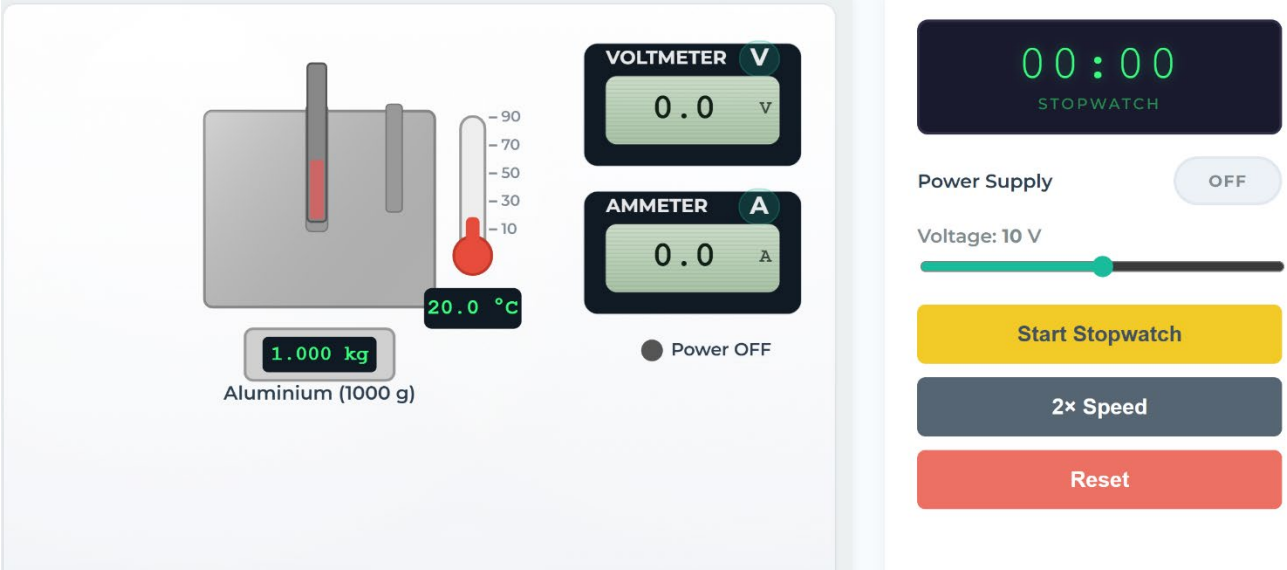
Specific Heat Capacity

Aim: *To determine the specific heat capacity of water and aluminium by measuring the energy required to raise the temperature of a known mass.*



Method:

1. Set the voltage of the power supply to a fixed amount. Do not change this once you start the experiment.
2. Record the initial temperature of the aluminium block
3. Turn the power supply on and record the voltage and current. At the same time start the stopwatch.
4. Every 60s, record the change in temperature
5. Calculate the total energy transferred by E = I x V x t

Results:

Time (s)	Temp (°C)	V (V)	I (A)	Energy Transferred (J)

Analysis:

Using the equation:

$$\Delta E = m \times c \times \Delta T$$

Calculate the specific heat capacity of aluminium.

ΔE = Total energy supplied (J)

m = mass of material being heated (kg)

ΔT = total change in temperature (^0C)

C = specific heat capacity (J / kg / ^0C)

Extension:

Following the same method, find the specific heat capacity of water.