

LAB 3: SPECIFIC HEAT CAPACITY (method of mixtures)

AIM: To determine the specific heat capacity of a brass by the method of mixtures

APPARATUS & MATERIALS:

bunsen burner	brass
thermometer	water
beaker	string
measuring cylinder	styrofoam cup

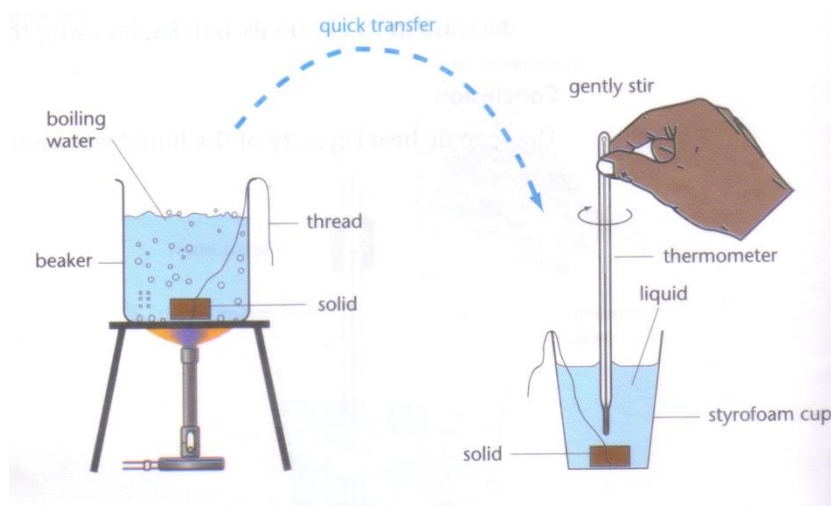


Diagram: Apparatus used for the specific heat capacity of a brass by the method of mixtures

METHOD:

- Heat a 100g brass mass in boiling water at 100 °C, over a period of time.
- Put 100g of water in a styrofoam cup and measure its temperature
- Shake and quickly transfer the brass mass from the boiling water to the water in the styrofoam cup.
- Stir the water with the brass mass in it with the thermometer until a steady temperature is reached.
- Record the final temperature of the mixture of the brass mass and the water.
- Assuming that no heat was gained by the styrofoam cup, calculate the specific heat capacity of the brass mass.

[Assume that 1cm³ of water = 1g of water]

THEORY:

- Define the specific heat capacity of a substance. State the formula and units.
- State the formula for the method of mixtures

RESULTS:

- Record all results in a suitable table (showing all headings and units)

CALCULATIONS:

- State formula used and show all working. (remember all units)

CONCLUSION:

- State the specific heat capacity of the 100g brass mass.
- State the main assumption made in the experiment
- Explain why the 100g brass mass was shaken and quickly transferred into the styrofoam cup.
- Why was the mixture of the water and the 100g stirred with the thermometer?