Determining the specific heat capacity of a material

Introduction

This practical activity is intended to be carried out as an investigation in which you plan and implement work to demonstrate your investigative skills.

Aim

- To demonstrate investigative skills
- To research, plan and implement a practical activity
- To make quantitative observations
- To relate observations to research or theory

Intended class time

- 60 to 120 minutes

Equipment (per group)

- sample of material whose specific heat capacity (SHC) is to be determined
- electric heater (low voltage)
- low voltage power supply
- voltmeter
- ammeter
- leads
- beaker
- kettle
- thermometer
- insulating material
- heatproof mat
- electronic balance

Health and safety

- Be aware of hot objects and liquids and take appropriate care.

Procedure

- Determine a strategy to enable you to determine the SHC of the material.
- Detail your plan.
- Obtain and record results.
- Calculate a value and evaluate your findings.

Recording

As evidence for the Practical Endorsement you should have detailed your method and the variables which you took into account. You should have evidence of the data collected in a clear and logical format. All work should be clearly dated.

In addition, in preparation for the assessment of practical work in the written exam you should record your calculations and an analysis and evaluation of your results.