

Lab- Measure Specific Heat Capacity

Steps to follow-

1. Press the Lab – Measure Specific Heat Capacity.
2. The camera of the phone will open after pressing Lab – Measure Specific Heat Capacity button.
3. Please hold the camera on top of the image target.
4. An animated experimental setup with a joulemeter, an immersion heater and a calorimeter will be visible.
5. Power and time can be changed with the help of the two sliders and the element whose specific heat is to be observed can be changed by a dropdown menu
6. Changing the values will show specific heat of an element.

Specific Heat Capacity (比熱容), $c = Q / m\Delta T$
where, Q = heat transferred (轉移的熱量), m = mass (質量)
 ΔT = change in temperature (溫度的變化量)
Here mass (質量) = 1 kg, Initial Temperature (初始溫度) = 25°C
Specific Heat Capacity of Mercury (汞的比熱容) = 140 J/kg°C
 $Q = P \cdot t = 3427380$ J, Therefore, $\Delta T = 24481.29$ °C

Mercury | 汞

Power | 功率 1731 W

Time | 時間 33 min

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Specific Heat Capacity (比熱容), $c = Q / m\Delta T$
where, Q = heat transferred (轉移的熱量), m = mass (質量)
 ΔT = change in temperature (溫度的變化量)
Here mass (質量) = 1 kg, Initial Temperature (初始溫度) = 25°C
Specific Heat Capacity of Water (水的比熱容) = 4200 J/kg°C
 $Q = P \cdot t = 2180400$ J, Therefore, $\Delta T = 519.1429$ °C

Water | 水

Power | 功率 1817 W

Time | 時間 20 min

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Fig. Screenshots from the topic “Lab – Measure Specific Heat Capacity”

圖：「實驗：測量比熱容」截圖

實驗：測量比熱容

步驟：

1. 按「實驗：測量比熱容」按鈕。
2. 按「實驗：測量比熱容」按鈕後，手機的相機鏡頭將會打開。
3. 將相機放在目標圖片上。
4. 焦耳計、浸入式加熱器和熱量計的實驗裝置動畫將於螢幕上顯示。
5. 透過兩個滑動條可改變功率和時間，於下拉菜單可選擇不同物料/元素，然後可觀察其比熱容。
6. 數值更改後，會顯示所選的物料/元素的比熱容之轉變。