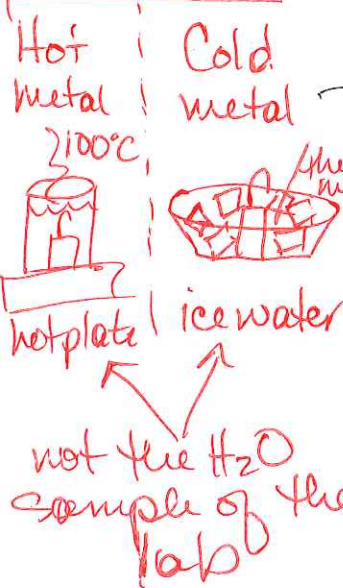


Q Calculations for Specific Heat

Pre Lab



93.3 g Fe from Sample at 65.58°C is

placed in 75.0 g of water raising water temperature from 16.95°C

to 19.68°C . What is the specific heat of the Iron sample?

$4.186 \frac{\text{J}}{\text{g}^\circ\text{C}}$

hot \xrightarrow{E} cold
lost \quad gain

$$Q_{\text{lost}} = Q_{\text{gained}}$$

$$-Q_{\text{Fe}} = Q_{\text{W}}$$

$$m_{\text{Fe}} C_{\text{Fe}} \Delta T_{\text{Fe}} = m_{\text{W}} C_{\text{W}} \Delta T_{\text{W}}$$

$$(93.3) C_{\text{Fe}} (19.68 - 65.58) = 75 (4.186) (19.68 - 16.95)$$

-45.9 2.73

$$-4282.47 C_{\text{Fe}} = 857.08$$

$$4282.47$$

$$C_{\text{Fe}} = .2 \quad \text{actual} = .11$$

small error

