

Heat Capacity

Discussion Study Sheet

Chem 192
Cañada College

Name: _____

Student ID: _____

Date: _____

Important Formulas:

$$Q = M \cdot C_p \cdot \Delta T$$

$$\Delta T = T_{\text{final}} - T_{\text{initial}}$$

1. A 20.0 gram piece of metal at 203°C is dropped into 100.0 g of water at 25° C. The water temperature rises to 29.0 °C. Calculate the specific heat of the specific heat of the metal.

2. Heating 30.0 grams of water from 20.0°C to 50.0°C requires how many calories of heat?

3. What will the final temperature be when 50.0 grams of water at 10.0°C are mixed with 10.0 grams of water at 50.0°C? (assume no heat loss)

4. A 40.0 gram sample of unknown pure metal was heated to 62.0 °C and put into an insulated container with 85.0 grams of water at 19.2 °C. The water was heated by the hot metal to a a temperature of 21.0 °C.

- (a) What is the specific heat of the metal?
- (b) Could this metal be gold?