

Inquiry Assessment**Chapter 5****BLM 5-3****Enthalpy of Neutralization****Goal**

Assess your understanding of the skills involved in determining enthalpy of reaction using a calorimeter.

Procedure

Read Investigation 5-A on page 240 of the student textbook before answering the question below.

1. Following a procedure similar to the one outlined in Investigation 5-A, a student mixes a 25-mL sample of a 1.0 mol/L strong common dibasic acid $\text{H}_2\text{X}_{(\text{aq})}$ with 50 mL of 1.0 mol/L $\text{NaOH}_{(\text{aq})}$ in a coffee-cup calorimeter. Both solutions are initially at 25.0 °C. The temperature stabilizes at 33.9 °C.
 - (a) Determine ΔH_{rxn} for the neutralization reaction. Write a thermochemical equation for the reaction.

Date:

Name:

Class:

- (b)** List any assumptions that you made as you carried out your calculations.
- (c)** Indicate any safety measures that you would have to take if you carried out an investigation like this one.
- (d)** Draw a diagram representing the set-up of the investigation.