

Name: _____

Date: _____

Laboratory Challenge 2: Enthalpy Challenge with Calorimeters

Problem

If anhydrous ammonium nitrate is added to water at room temperature, the temperature of the solution decreases. However, if anhydrous calcium chloride is added to water at room temperature, the temperature of the water increases. Design and carry out an experiment to determine what mass of ammonium nitrate must be added along with 10.0 g of CaCl_2 to 100. mL of water so that the final temperature of the solution is the same as the initial room temperature of the water.

Given

A coffee cup calorimeter set-up and digital balance.

Experimental Plan

Materials

Before beginning your experiment, you must get approval from the instructor.	Examiner's Signature
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Procedure

Data and Observations

Calculations:

Explain any sources of error and how they affected your results. How could you correct for these in future experiments?