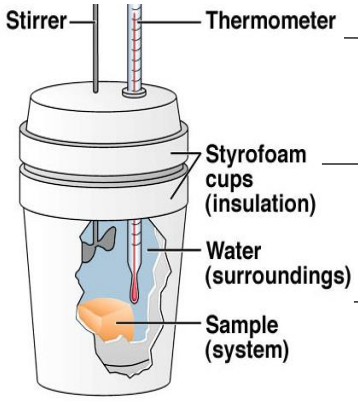
Calorimetry Notes

A. Calorimeter

Calorimeters measure _____



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$C_{(water)}$ = 4.184 J/g°C

Key: Calorimetry depends of the Law of conservation of _____

Heat lost or gained by the sample
= Heat lost or gained by the water

The final temp of the water inside the calorimeter is the _____ as the final temp of the sample

B. Calorimeter Calculations

Example 1: calculating energy change using a calorimeter

A small amount of salt is added to 50.0 grams of water in a Styrofoam calorimeter. The temperature of water changes from an initial temperature of 25.0°C to 32.0°C. Calculate the heat released by the dissolving of this salt.

Given (water)	Given (sample)	Work

Example 2: solving for the specific heat using a calorimeter

A 50.0 g piece of metal is heated to 115.0°C and is placed into a calorimeter with 125 g of water whose initial temperature was 25.6°C. Both the water and the metal have a final temperature of 29.3°C. What is the specific heat of the metal?

Given (water)	Given (metal)	Work Step1: calculate the heat gained by the water Step 2: Heat gained = Heat lost Step 3: Determine the specific heat of the metal