

CHEMISTRY 060

Name \_\_\_\_\_  
Date \_\_\_\_\_

EXPERIMENT 4 - HEAT OF COMBUSTION

Calculations

1. Mass of candle at the end \_\_\_\_\_ g  
Mass of candle at the start \_\_\_\_\_ g  
Mass of candle that burned \_\_\_\_\_ g
2. Temperature at end \_\_\_\_\_ °C  
Temperature at start \_\_\_\_\_ °C  
Temperature change \_\_\_\_\_ °C
3. Heat absorbed by the water  
mass of water X  $\Delta T$  X C \_\_\_\_\_ g X \_\_\_\_\_ °C X 4.184 J/g °C  
\_\_\_\_\_ J
4. Heat produced by the candle in J/g  
\_\_\_\_\_  $\frac{\text{J}}{\text{g}}$  \_\_\_\_\_ J/g \_\_\_\_\_ kJ/g

Questions

1. Why is it necessary to catch all the drippings on the base?
2. Why is the water heated until its temp is as far above room temp as it was below room temp at the beginning of the expt?
3. In the calculation we assume all the heat that the candle produced is absorbed by the water. Is that assumption completely correct? Explain.
4. Would a more refined calorimeter give a higher or lower value than the one determined with the apparatus you used? Explain.