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

Data Table

|  |  |  |
| --- | --- | --- |
|  | water volume (mL) |  |
|  | water mass (grams) |  |
|  | Temperature of Bunsen Burner hot water with metal sitting in it (°C) |  |
|  | Temperature of cold water in Styrofoam calorimeter, measured right before you put anything in it (°C) |  |
|  | Temperature of cold water in Styrofoam calorimeter, after you drop in the hot metal (°C) |  |
|  | mass of dry metal (g) |  |

Calculations after the Lab

|  |  |
| --- | --- |
|  |  |
| 1. For the white cup, Calculate ∆T = Tfinal  - Tinitial
 | 1. For the white cup, Calculate ∆T = Tfinal  - Tinitial
 |
|  |  |
| 1. Calculate Q (heat entering water) with

Q = mass water x 4.184 $\frac{J}{g·°C}$ x ∆Twater  | 1. Calculate Q (heat entering water) with

Q = mass water x 4.184 $\frac{J}{g·°C}$ x ∆Twater  |
| Qwater: | Qwater: |
| 1. Assuming that 100% of the heat that entered the water, came **from** the hot metal, write how much heat left the metal.
 | 1. Assuming that 100% of the heat that entered the water, came **from** the hot metal, write how much heat left the metal.
 |
| Qmetal : | Qmetal : |
| 1. No numbers here.

In the square below, rearrange Q=mass x Cp x ∆T to get Cp alone. | 1. No numbers here.

In the square below, rearrange Q=mass x Cp x ∆T to get Cp alone. |
|  |  |
| 1. Write everything you know about the metal here
 | 1. Write everything you know about the metal here
 |
| mass:Qmetal:T hot metal:T cold metal at the end of the experiment:∆T of the metal: | mass:Qmetal:T hot metal:T cold metal at the end of the experiment:∆T of the metal: |
| 1. Solve for Cp of the metal (sometimes called the heat capacity of the metal)

(use the equation you made in #3. Use the numbers you wrote in #4 | 1. Solve for Cp of the metal (sometimes called the heat capacity of the metal)

(use the equation you made in #3. Use the numbers you wrote in #4 |
|  |  |