Purpose: To calculate the specific heats of various metals.

Procedure:

1. Measure out 100 ml of water and add it to the center chamber of the calorimeter.

2. Take the Temperature of the water and record this in the data table.

3. Heat up a metal using the Bunsen burner for 60 seconds.

4. Drop the metal in the water and record the temperature of the water in the data table. This is your final Temp.

5. Calculate the heat gained by the water Q=mc∆T. Record this in the data table.

6. The heat *lost* by the water will equal the heat *gained* by the Metal (only opposite in magnitude, therefore change the sign). Record this in the data table.

7. Change in Temperature of the metal (∆T) can then be calculated using the specific heat of each metal, which can be found in your reference tables.

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| Sample | Mass of water | C for water (J/goC) | Initial Temp | Final Temp | Heat gained by water | Heat lost by Metal | Mass of Metal | Specific Heat of metal(J/goC) | ∆ T of the metal  |
| Bronze | 100g | 4.18 |  |  |  |  |  | 0.435 |  |
| Aluminum | 100g | 4.18 |  |  |  |  |  |  |  |
| Zinc | 100g | 4.18 |  |  |  |  |  |  |  |
| Copper | 100g | 4.18 |  |  |  |  |  |  |  |

Personal Conclusion: (In your conclusion, discuss the relationship between specific heat and temperature. For example, how does specific heat affect the change in temperature?)