Measuring Specific Heat Capacity

***Purpose :*** The purpose of this lab is to use calorimetry and heat transfer in order to determine the specific heat of each metal.

***Procedure :***

1. Use a styrofoam cup as a calorimeter.
2. Use tap water as ‘’cold ‘’ water, let it run to get cold.
3. Measure exactly 100 mL of cold water using graduated cylinder. Pour it into calorimeter. (Take 225 mL for Aluminum).
4. Take temperature of cold water. Record it.
5. Record temperature of hot water that heats metal being tested.
6. Pick up metal and put it carefully into cold water in calorimeter.
7. Stir for 1 minute. Note temperature. Stir 1 more minute, note temperature. If stable, record it.
8. Take metal out of water, dry it, mass it.
9. Put it in ‘’used metal tray ‘’.
10. Repeat using different metal.

Use 5 different metals in this lab.

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| Metal | Mass of metal | Temperature of metal | Initial Temperature | Final Temperature | ΔTTwater final - Tmetal | ΔTTwater final - Twater initial |
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***Analysis:***

1. Calculate specific heat capacity “c” for each metal used. Show your calculations.
2. Calculate % error. Show your calculations
3. List sources of error.