

NAME: _____

Measuring the Heat Capacity of Metals

IN-LAB ASSIGNMENT

SAMPLE: _____

DATA	Trial 1	Trial 2	Trial 3
Mass of Empty Cups + Lid	g	g	g
Mass of Cups + Lid and Water	g	g	g
Mass of Water	g	g	g
Mass of Metal	g	g	g

Show Calculation for Mass of Water for Trial 1:

DATA	Trial 1	Trial 2	Trial 3
Initial Temperature of Water	°C	°C	°C
Initial Temperature of Metal	°C	°C	°C
Final Temperature of Water + Metal	°C	°C	°C
Specific Heat Capacity of the Metal	J/g °C	J/g °C	J/g °C

Show Calculation for Specific Heat Capacity of the Metal for Trial 1:

Average Specific Heat Capacity of the Metal (show calculation): _____

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SAMPLE: _____

DATA	Trial 1	Trial 2	Trial 3
Mass of Empty Cups + Lid	g	g	g
Mass of Cups + Lid and Water	g	g	g
Mass of Water	g	g	g
Mass of Metal	g	g	g

Show Calculation for Mass of Water for Trial 1:

DATA	Trial 1	Trial 2	Trial 3
Initial Temperature of Water	°C	°C	°C
Initial Temperature of Metal	°C	°C	°C
Final Temperature of Water + Metal	°C	°C	°C
Specific Heat Capacity of the Metal	J/g °C	J/g °C	J/g °C

Show Calculation for Specific Heat Capacity of the Metal for Trial 1:

Average Specific Heat Capacity of the Metal (show calculation): _____

NAME: _____

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IN-LAB ASSIGNMENT

POST-LAB ASSIGNMENT (also include p. 32-33 in the lab manual)

- 1.) Calculate the heat absorbed, in J, when 32-grams of aluminum are heated from 28°C to 85°C.

- 2.) Calculate the heat absorbed, in J, when 32-grams of tungsten are heated from 28°C to 85°C.

- 3.) Explain the difference between your answers in questions 1 and 2.

- 4.) A block of metal weighing 65g was heated to 100.0°C. The warm metal was quickly transferred to an insulated container holding 75g of water at 15.0°C. The metal and water finally reached 18.7°C. Calculate the specific heat of the metal, in J/g °C.