

SPECIFIC HEAT CAPACITY LAB:

Things to think about:

Name, Date, Section

Q lost by the metal = Q gained by the water

$$(m_w c_{cw} \Delta T_{cw}) + (m_c c_c \Delta T_c) = m_m c_m \Delta T_m$$

Think about what will happen in the lab. Answer the following questions in preparation for the lab. It may also help you with your data and analysis tables.

QUESTION	ANSWER
1. If the unknown metal is boiled in water for five minutes, what should the temperature of the unknown metal be? (not looking for a specific number)	
2. If the volume of water is measured in mL and mass in grams, what unit should be used for Specific Heat Capacity?	
3. After taking the initial temperature of the cool water in the aluminum cup, what will be the <i>initial</i> temperature of that aluminum cup? (not looking for a specific number)	
4. What will the specific heat of the metal aluminum cup be? (looking for a specific number)	
5. After placing the heated metal into the aluminum cup of cool water and waiting for a constant temperature, what should be true about the <i>final temperature</i> of the aluminum cup and the water?	
6. (not looking for a specific number)	
7. Will the change in temperature be the same for the water (in the aluminum cup) and the aluminum cup?	
8. How is the change in temperature for the unknown metal found?	

m_m	Mass of unknown metal	m_w	Mass of the water	m_c	Mass of the aluminum cup
c_m	Specific Heat Capacity of unknown metal	c_{cw}	Specific Heat of cool water	c_c	Specific Heat Capacity of Aluminum Cup
ΔT_m	Change in temperature of unknown metal	ΔT_{cw}	Change in temperature of cool water	ΔT_c	Change in temperature of the aluminum cup