Cornell Notes	Topic/Objective: Specific Heat Capacity			Name:		
			Cla	Class/Period: Chemistry Date:		
AVID			Da			
Essential Question: HOW 0		do different substances respond to heat?				
		•				
Questions:		Notes:		Substance	Specific heat capacity (cal/g · °C)	
Do different		Specific Heat Capacity:		aluminum, Al(s)	0.21	
substances heat up				water, H ₂ O(<i>l</i>)	1.00	
at the same rate?				copper, Cu(s)	0.09	
1110 001410 1	0.101			iron, Fe(s)	0.11	
				wood (cellulose), $(C_6H_{10}O_5)_n(s)$	0.41	
				glass, SiO ₂ (s)	0.16	
				nitrogen, $N_2(g)$	0.24	
		q =		ethanol, CH ₃ CH ₂ OH(<i>l</i>)	0.57	
		M =		hydrogen, H ₂ (g)	3.34	
		C _p =				
		Suppose you have 15 g of methanol, CH_3OH , and 15 g of water, H_2O , both at 75°C. You want to cool both samples to 20°C. How				
		much energy (in calories) do you need to remove from each				
		sample?				
		Water		Methanol		
		m =	m =			
		$c_p =$		$c_p =$		
				ΔT =		

Why the	•			
differences in				
energy required to	•			
change the				
temperature?	•			
-				
How are food	Calorimetry:			
calories (Calories)	Electrical leads forThermometer			
measured and	igniting sample			
calculated?				
	Motorized — Insulated outer container filled with water			
	- Inied with water			
	Water ——Bomb			
What is difficult to	(reaction chamber)			
control in a				
calorimetry				
experiment?				
	Calories from a Food Source			
	These data were collected from the burning of one cashew. How			
	much thermal energy was transferred?			
	Initial ⊤of water = 19.0°C			
	Final T of water = 34.5°C			
	Volume of water = 30.0 mL			

	Calories per Gram of Food Source			
	How much energy per gram was released by the combustion of			
	cashew?			
	Initial mass of cashew = 0.66 g			
	Final mass of cashew = $0.06 g$			
Summary:				