Name: Date: Class:

Specific Heat and Calorimetry WebQuest

Go to http://hyperphysics.phy-astr.gsu.edu/hbase/thermo/spht.html and begin reading.

1. Define heat (click on the blue link, in the first sentence, that says heat). _____
2. Define Specific Heat (Hint: first sentence). _____
3. **Write** the big red equation here and **label** all the letters and symbols

4. What is the specific heat of water? in calories/gram °C _____in joules/gram °C _____
5. What is the equation for change in temperature (ΔT) calculated? (see the second big red equation for assistance)

Go to http://en.wikipedia.org/wiki/Calorie and read. Fill in the blanks below.

6. What is a calorie?_____
7. What is the difference between a small calorie (cal) and a large Calorie (Cal)?_____
8. Which of the above is used as a dietary calorie (calories used to measure the energy in food)?_____

Go to http://www.unitconversion.org/unit_converter/specific-heat-capacity.html and compare the measurements of calories to joules below.

9. 1 cal = ____ J (Select "calorie (IT) gram/°C [cal/g °C]" to "joule/gram/°C[J/(g/°C)]" to convert.)

Go to http://www.physicsclassroom.com/class/thermalP/u18l2c.cfm and answer the following questions.

10. What is calorimetry?_____
11. What is a calorimeter?_____
12. How does a calorimeter work?_____

Part 4- Specific Heat

- http://hyperphysics.phy-astr.gsu.edu/hbase/thermo/spht.html#c1
- Write the formula that can be used to calculate the heat energy being absorbed or released in a system.

- Describe each part of the equation

  Heat gained or lost = Mass x Change in Temperature x Specific Heat

  - Mass –
  - Change in temperature -
  - Specific Heat –

http://employees.oneonta.edu/viningwj/sims/specific_heat_s.html

- **Click on the Description Button and read the description.**
- **Choose a material from the drop down box. Choose either 5 or 10 grams of your material. Move the slider to determine how long the material will be heated.**
- **Click HEAT**
- **Fill in the data below and calculate the specific heat of your material.**

Initial temp =	Final Temp =	Δ T =
Mass of Block =		
Heat Added to Block =		
(show all work) **Specific Heat =**		

Part 5- Some more Specific Heat Problems

http://www.sciencebugz.com/chemistry/chprbspheat.htm

Show set up for the 3 problems. Calculate the answer and check it.

1. Problem #1

2. Problem #2

3. Problem #3