Guided Reading: Calorimetry & Heat

Homework

Name_____

Date_____

Period_____

Testable and Quizzable Ideas from the Blue Textbook Chapter 11. Be ready to hand this in.
Avoid pronouns.

Heat (p. 293, the the second paragraph) • get the book's definition of energy	the capacity for doing work or causing heat
Heat (p. 293, the last paragraph) • Write at least four facts about heat	– heat itself cannot be detected – only changes caused by heat can be detected
Heat Capacity (p. 296, the second paragraph) • define heat capacity	the amount of heat needed to increase the temperature of an object exactly one degree °C
Specific Heat Capacity (p. 297, the first paragraph) • define specific heat capacity	the amount of heat needed to increase exactly 1 gram of a substance exactly one degree °C

The formula for heat (p. 297, the second paragraph)

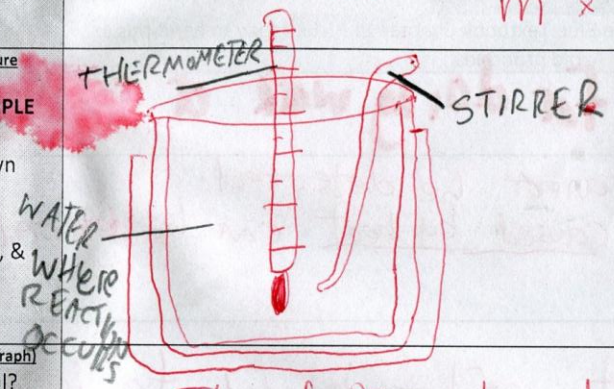
- copy the formula
- label the parts of the formula in any way that will be useful for you to understand what the letters stand for.

$$C = \frac{q}{m \times \Delta T}$$

C is heat capacity of the substance
q is heat
m is mass of the substance
ΔT is $T_{final} - T_{initial}$

A picture of a Calorimeter (p. 300, Figure 11.8)

- sketch and label the "**SIMPLE CALORIMETER**"
- From the caption, jot down the function of
  - the stirrer,
  - the thermometer, &
  - the chemical substances



stirrer keeps the solution temperature uniform
thermometer measures the temperature change of the chemicals
substances constitute a "system"

Calorimetery (p. 300, the second paragraph)

- What two things are equal? (Super important***)

The heat released by the system = the heat absorbed by the surroundings

The sign of delta H (p. 301, the top)

- copy Table 11.3

exothermic rxn ΔH is neg.	$\Delta H < 0$
endothermic rxn ΔH is positive	$\Delta H > 0$

Specific Heat (p. 296, Table 11.2)

- Try to find a pattern to what types of substances have low, medium, and high heat capacities

metals have low heat capacity
ice and wood have medium
water has high heat capacity.