Unit 2 NAME

Class Work 10/23/13

2.13 Calorimetry Lab

SPARK **(ANSWER in COMPLETE SENTENCES!)**

1. In what direction does heat always flow?
2. What equation do we use to determine the heat required to change the temperature of a substance?
3. What equation do we use to determine the heat required for a phase change?
4. What is the heat required to melt 10 grams of water?

Reminders

- Marking Period 2!
- Ice Cream lab is:
  - Cations = THURS
  - Anions = WEDS
    - Bring your own topping and add-ins!

Misconceptions:

- the process is not a heating curve - a heating curve is used to represent the process of heating!
- It's not flat molecules! When the line is flat, the molecules are going through a phase change!
- Releasing energy = releasing heat = getting COLDER!

Review of 2.12 HW

1. The specific heat capacity of ethanol is 2.44 J/(g*°C). Why is more heat required to raise the temperature of a given mass of water a given number of degrees than is needed to raise the same mass of ethanol (a liquid) by the same number of degrees?

Review of 2.12 HW

2. If the temperature of 34.4 g of ethanol increases from 25.0°C to 78.8°C, how much heat has been absorbed by the ethanol?

Review of 2.12 HW

3. A 4.50-g nugget of pure gold absorbed 276 J of heat. What was the final temperature of the gold if the initial temperature was 25.0°C? The specific heat capacity of gold is 0.129 J/(g*°C)

Review of 2.12 HW

4. A 155-g sample of an unknown substance was heated from 25.0°C to 40.0°C. In the process, the substance absorbed 5696 J of energy. What is the specific heat of the substance?

ANSWERS TO THE BACK

5. (4)
6. (3)
7. (2)
8. (4)
9. (4)

QUESTIONS??

TASK:

- Determine the specific heat capacity of brass and compare this calculated value with the known value!

- 1 mL = 1 g`

HOMEWORK

Finish the lab!

QUIZ TOMORROW (phase changes, heating curve, calculating heat!)