**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_ Seat #: \_\_\_\_\_\_\_\_\_\_\_**

**Directions:** In order to earn credit you must show ALL work the way it was required in class for notes and homework, and your final answer MUST have a box around it and units. No work, no units, no credit.

1. What mass of water requires 3500 J of energy to heat if from 35C to 45C?
2. If 38 grams of water at 0C is heated to water at 100C how much energy is absorbed?
3. If you cool down 40g of steam at 120C to water at 10C, how much energy was released?
4. What is the specific heat of an unknown metal if 140g of the metal absorbs 2000 J of energy in order to heat it from 20C to 90C?
5. How much energy is required when 20 g of ice heats from -10C to 20C?
6. How much energy is released when 5g of ice is frozen?

1. If 30g of water is heated from 90C and then boiled, how much energy did you need to put in?

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_ Seat #: \_\_\_\_\_\_\_\_\_\_\_**

**Directions:** In order to earn credit you must show ALL work the way it was required in class for notes and homework, and your final answer MUST have a box around it and units. No work, no units, no credit.

1. What mass of water requires 2500 J of energy to heat if from 45C to 55C?
2. If 45 grams of water at 0C is heated to water at 100C how much energy is absorbed?
3. If you cool down 30g of steam at 110C to water at 20C, how much energy was released?
4. What is the specific heat of an unknown metal if 150g of the metal absorbs 2100 J of energy in order to heat it from 25C to 90C?
5. How much energy is required when 10 g of ice heats from -10C to 30C?
6. How much energy is released when 15g of ice is frozen?

1. If 35g of water is heated from 80C and then boiled, how much energy did you need to put in?