Science Worksheet 2-10a Heat Transfer Worksheet

Name_____Date_____

In problems 1-3, calculate the heat change (calories) using the equations below

Δ Heat = Specific Heat x mass x Δ temperature

1. How many calories of heat are required to raise the temperature of 550 g of water from 12.0 °C to 18.0 °C? (remember the specific heat of water is 1.00 cal/g x °C)

2. How much heat is lost when a 640 g piece of copper cools from 375 °C, to 26 °C? (The specific heat of copper is 0.09 cal/g x °C)

3. The specific heat of iron is 0.107 cal/g x °C. How much heat is transferred when a 24.7 kg iron ingot is cooled from 880 °C to 13 °C?

In problems 4-6, find the mass using the equation below.

Mass = Δ Heat ÷ (Specific Heat x Δ temperature)

4. How many grams of water would require 22,000 of heat to raise its temperature from 34.0 °C to 100.0 °C? (Remember the specific heat of water is 1.00 cal/g x °C)

5. 2088 cal of heat are applied to a piece of aluminum, causing a 56 °C increase in its temperature. The specific heat of aluminum is 0.22 cal/g x °C. What is the mass of the aluminum?