Honors Chemistry Hour\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
Dr. Wexler
Specific Heat Capacity Worksheet 1 (HS-PS3-1)
Date:

Directions: Use q = C mΔT to solve the following problems. Show all calculations and units.

1. A 15.75-g piece of iron absorbs 1086.75 joules of heat energy, and its temperature changes from 25°C to 175°C. Calculate the specific heat capacity of iron.
2. Calculate the specific heat capacity of a piece of wood if 1500.0 g of the wood absorbs 6.75×104 joules of heat, and its temperature changes from 32°C to 57°C.
3. How many joules of heat are needed to raise the temperature of 10.0 g of aluminum from 22°C to 55°C, if the specific heat of aluminum is 0.90 J/g°C?
4. To what temperature will a 50.0 g piece of glass rise if it absorbs 5275 joules of heat and its specific heat capacity is 0.50 J/g°C? The initial temperature of the glass is 20.0°C.
5. 100.0 mL of 4.0°C water is heated until its temperature is 37°C. If the specific heat of water is 4.18 J/g°C, calculate the amount of heat energy needed to cause this rise in temperature.

 (Cp of H2O = 4.184 J/g °C)