Specific Heat Worksheet Name (in ink):

$C = q/m\Delta T$, where q = heat energy, m = mass, and T = temperature
Remember, $\Delta T = (T_{final} - T_{initial})$. **Show all work and proper units.**
Answers are provided at the end of the worksheet without 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. 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?

3. To what temperature will a 50.0 g piece of glass raise 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.

4. Calculate the heat capacity of a piece of wood if 1500.0 g of the wood absorbs 6.75×10^4 joules of heat, and its temperature changes from 32°C to 57°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