Specific Heat Worksheet #1

Specific Heat (J/g°C)			
Aluminum	0.90	Iron	0.450
Copper	0.38	Lead	0.130
Gold	0.13	Steam	1.87
Ice	2.09	Water	4.18

Calculate the following showing **ALL** work to receive credit.

For #1-4 circle the variables it gives you and underline what you are trying to find. You can use two colors of highlighters if you like.

Q	Problem
1	Find the amount of heat (Q) needed to raise the temperature of 5.00 g of a substance from 20.0° C to 30.0°C if the specific heat of the substance is 2.01 J/g°C. **100.5 J**
2	A metal with a specific heat of 0.780 J/g°C requires 45.0 J of heat to raise the temperature by 2.00°C. What is the mass of the metal? **28.8 g**
3	A substance requires 50.0 J of heat to raise its temperature by 6.00°C. If the mass of the substance is 5.00 g, what is the specific heat of the substance? **1.67 J/g°C**
4	A metal with a specific heat of 0.70 J/g°C and a mass of 8.00 g absorbs 48.0 J of heat. What will be the temperature change of the metal? **8.57 °C**
5	How much heat (Q) is needed to raise the temperature of 8.00 g of lead by 10.0°C? **10.4 J**
6	The temperature of a 250.0 g ball of iron increases from 19°C to 32°C. How much heat did the iron ball gain? **1462.5 J**
7	The temperature of a 100.0-g block of ice increases by 3.00°C. How much heat does the ice receive? **627 J**
8	Ten grams of steam absorbs 60.0 J of heat. What is the temperature increase of the steam? **3°C**
9	A piece of lead loses 78.0 J of heat and experiences a decrease in temperature of 9.0°C. What is the mass of the piece of lead? **66.7 g**
10	What is the specific heat of a substance in J/g°C, if a 15 gram piece of the substance gains 65 J of heat when it is heated from 10°C to 45°C?

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