Units of Energy Conversions

Use conversion factors and dimensional analysis to answer these problems. 1 calorie = 4.184 joules.

1.	A person uses 550 kcal of energy to run a race. units:		Convert the energy used for the race to the following energy	
	a.	Calories		
	b.	Joules		
	c.	Kilojoules		
2.		nvert each of the following energy units: 3500 cal to kcal		
	b.	415 J to cal		
	c.	28 cal to kJ		
3.		nvert each of the following energy units: 8.1 kcal to cal		
	b.	325 J to kJ		
	c.	2.50 kcal to J		

	ourning match releases 1100 J of energy. Convert the energy released by 20 matches to the following ergy units: Kilojoules
b.	Calories
	akes 4184 J of energy to raise the temperature of 1.000 kg of water 1.000 °C. How many joules does it take to raise the temperature of 1.50 kg of water 1.00 °C?
b.	How many calories does it take to raise the temperature of 1.0 kg of water 15.5 °C?
6. Wa	E Heat Calculations Iter has a specific heat of 4.184 J/g·°C. How much energy must be added to 1450 g of water to raise the temperature from 5.5 °C to 29.0 °C?
b.	How much energy is removed from 10.55 kg of water to lower the temperature from 22.5°C to 3.0°C?
C.	Adding 550 calories of energy raised the temperature of water from 10.0 °C to 13.25 °C. What was the mass of the water?

7.		n has a specific heat of 0.45 J/g·°C. How much energy must be added to 376 g of iron to raise the temperature from 25.5 °C to 429.0°C?
	b.	Removing 9550 kcal of energy lowered the temperature of iron from 100.0 $^{\circ}$ C to 73.25 $^{\circ}$ C. What was the mass of the iron?
	C.	19770 J of energy was added to 5.80 kg of iron. If the iron was originally at 25.0°C what was the final temperature of the iron?
8.		am has a specific heat of 1.90 J/g·°C. How much energy must be added to 125 kg of steam to raise the temperature from 105.5 °C to 129.0°C?
	b.	How much energy must be removed from 1520 g of steam to lower the temperature from 202.5°C to 100.0 °C?
	C.	109 kJ of energy was added to 2.50 kg of steam. If the steam was originally at 100.0°C what was the final temperature of the steam?
9.		nat is the specific heat of a substance if 525 calories of energy increases the temperature of 10.0 g of the ostance 5.75°C?
10		nat is the specific heat of a substance if removing 95.0 J of energy decreases the temperature of 5.0 g of the ostance from 23.5°C to 18.1°C?