|  |
| --- |
| Heat is added to two identical objects that are initially at the same temperature. If the first absorbs 100.0 cal and the second absorbs 100.0 J, which gets hotter? Explain.  Answer: |
| Some diet books tell you that an excellent way to lose weight is to drink ice-cold water. Why?  Answer: |
| Examine the heating curve for the following unknown substance:  CHEM300-05QuestionsQ8  At what temperature does this substance boil? How do you know?  Answer: |
| The specific heat of iron is roughly three times that of gold. Equal masses of gold and iron start out at room temperature. Heat is added to each mass at the same rate for the same amount of time. When it is all over, the gold's temperature increased by 600 oC. What was the temperature increase of the iron?  Answer: |
| Why should a calorimeter always be made from an insulating material?  Answer: |
| The average person uses 2,500.0 Cal of energy per day. How many Joules is that? Remember that a food calorie (Cal) is 1,000 chemistry calories (cal).  Answer: |
| How many Joules does it take to heat up 12.1 kg of glass from 15 oC to 40 oC? (refer to Table 2.1 v3 Table 12.1)  Answer: |
| 142.1 g of an unknown substance absorbs 40.0 kJ of heat and increases its temperature by 32.3 oC. What is its specific heat? (Remember that "k" is the abbreviation for "kilo," so "kJ" stands for kiloJoules.)  Answer: |
| A 425 g piece of copper at room temperature (25 oC) loses 654.7 Joules of heat. What will its new temperature be?  Answer: |
| Question Q7 mentioned that drinking ice-cold water is a way of burning excess Calories. Calculate how many Calories are burned when a 355 g glass of water at 0.0 oC is warmed up to body temperature (37.0 oC).  Answer: |
| A calorimeter is filled with 250.0 g of water at 24.6oC. A 60.0 g sample of a metal at 100.0 oC is dropped in this calorimeter and causes the temperature to increase a total of 4.5oC. What is the specific heat of the metal (in J/g°C)? Ignore the calorimeter in this problem.  Answer: |
| A 354.1 g sample of copper at 100.0 oC is dropped into a 5.5 g calorimeter made of an unknown substance. If the calorimeter has 160.0 grams of water in it and the temperature changed from 24.2 oC to 25.3 oC, what is the specific heat of the calorimeter (in J/g°C)?  (refer to Table 2.1 v3 Table 12.1)  Answer: |