

**Perform the following unit conversions. Show all work involved. Be sure to round for significant figures and include appropriate units.*

1 Calorie = 1000 calories

1 kcal = 1000 calories

1 calorie = 4.184 joules

1 kilojoule = 1000 joules

- 1) Convert 25 joules to kilojoule
- 2) Convert 0.890 Calories to calories
- 3) Convert 1.4 joules to Calories
- 4) Convert 70.3 kilojoules to calories
- 5) Convert 71.0 Calories to joules
- 6) Convert 85 kilojoules to kilocalories
- 7) Convert 1.30 joules to kilojoules
- 8) Convert 90.2 calories to kilojoules

Energy Conversions Need by 12:00 Noon EST Fri June 5, 2020

perform the following unit conversions. Show all work involved. Be sure to round for significant figures and include appropriate units.

1) How much energy is absorbed if 15.6 g of aluminum is heated from 100.0°C to 187.0°C ?

The specific heat of aluminum is $0.900\text{ J/g}^{\circ}\text{C}$.

2) It took 37.2 J of heat to raise the temperature of 11.2 g of a substance by 13.4°C . What is the specific heat of the substance?

3) When 19.4 g of zinc absorbs 165 J of heat energy, what is the change in temperature of the metal? The specific heat of zinc is $0.388\text{ J/g}^{\circ}\text{C}$.

4) Determine the amount of heat released if 101.5 g of lead cooled from 90.0°C to 23.9°C . The specific heat of lead is $0.159\text{ J/g}^{\circ}\text{C}$.

5) A sample of magnesium cooled from 100.6°C to 27.6°C and produced - 4329 joules of energy. What was the mass of the sample? The specific heat of magnesium is $1.020\text{ J/g}^{\circ}\text{C}$.

Specific Heat Need by 12:00 Noon Est Fri June 5, 2020