## Answer on question #58605 - Chemistry - General Chemistry

### Question:

The temperature of a piece of metal whose mass is 2200 Grams increases from 10.0°C to 20.0°C when it absorbs 3.44 kJ of heat energy. What is the heat capacity of the metal?

### Solution:

The formula for absorbed energy:

$Q = cm\Delta T$

The heat capacity of metal is:

$c = Q/m\Delta T = 3.44\ kJ/(2200\ g*(20°C - 10\ °C)) = 3.44*10^3\ J/(2.2\ kg*10\ °C) = 156.4\ J/kg * °C$

### Answer:

The heat capacity of metal is 156.4 J/kg * °C.