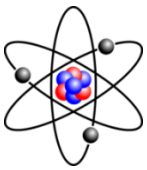
Name:

COLONIAL CHRISTIAN SCHOOL



Heat Assignment

$$F = \frac{9}{5}C + 32$$

$$K = C + 273.15$$

Example: **15**°C to °F

F = 9/5C+32
F = 9/5(15) + 32
F = 27+32
F = 59

SHOW YOUR WORK. CIRCLE YOUR ANSWER.

Convert the following to Fahrenheit using a calculator. For a high grade, write a computer program or Excel worksheet that converts any temperature instead.

25°C	Kindling temperature of **Paper** 218–246 °C
100°C	Kindling temperature of **Iron** 1,315 °C
-273°C	Kindling temperature of **Phosphorus** 34 °C

Convert the following using a calculator.

74°F to °C	Mercury melts at 234.28 °C, What is that in °F
100°C to °K	Lead melts at 621.7 °F, What is that in °K
20°C to °K	Air in a blimp is 185°F, what is that in °K

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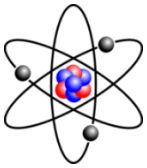

$$Q = c_{sp} m \Delta t$$

C_{sp} = Specific Heat J/(Kg °C)
Q = Heat in Joules KgM^2/S^2
ΔT =Temp Change in °C
M = Mass in Kg

Specifc Heats In J/Kg °C	
H_2O	4200
Cu	384.5
Fe	449.4

How many joules of heat are required to raise the temperature of 550 Kg of water from 12.0°C to 18.0 °C?	
How much heat is lost when a 640 g piece of copper cools from 375 °C to 26°C?	
How much heat is transferred when a 24.7 kg iron ingot is cooled from 880 °C to 13 °C?	
How many degrees would the temperature of a 450 g ingot of iron increase if 7600 J of energy are applied to it?	
How much change in temperature would the addition of 35 000 Joules of heat have on a 538.0 g sample of copper?	
4786 Joules of heat are transferred to a 89.0 gram sample of an unknown material, with an initial temperature of 23.0 °C. What is the specific heat of the material if the final temperature is 89.5 °C?	
The temperature of a 55 gram sample of a certain metal drops by 113 °C as it loses 3500 Joules of heat. What is the specific heat of the metal?