

## SPECIFIC HEAT CAPACITY ASSIGNMENT

- (A) How many joules of heat are required to raise the temperature of 550 g of water from 12.0 °C to 18.0 °C? (Remember the specific heat of water is 4200 J/kg °C)
- (B) How much heat is lost when a 640 g piece of copper cools from 375 °C to 26°C? (The specific heat of copper is 384.52 J/Kg °C)
- (C) The specific heat of iron is 449.4 J/Kg °C. How much heat is transferred when a 24.7 kg iron ingot is cooled from 880 °C to 13 °C?
- (D) How many kilograms of water would require 220000 joules of heat to raise its temperature from 34.0 °C to 100.0 °C? (Remember the specific heat of water is 4200 J/kg °C)
- (E) 8750 J of heat are applied to a piece of aluminium causing a 56 °C increase in its temperature. The specific heat of aluminium is 902.5 J/kg °C. What is the mass of the aluminium?
- (F) Find the mass of a sample of water if its temperature dropped 24.8 °C when it lost 870 J of heat. (Remember that specific heat capacity of water 4200 J/kg °C)
- (G) How many degrees would the temperature of a 450 g ingot of iron increase if 7600 J of energy are applied to it? (The specific heat of iron is 449.4 J/Kg °C)
- (H) A 250 g sample of water with an initial temperature of 98.8 °C loses 7500 joules of heat. What is the final temperature of the water? (Remember, final temp = initial temp - change in temp) remember that specific heat capacity of water 4200 J/kg °C
- (I) Copper has a specific heat of 384.52 J/Kg °C How much change in temperature would the addition of 35 000 Joules of heat have on a 538.0 g sample of copper?
- (J) Determine the specific heat of a certain metal if a 450 gram sample of it loses 34 500 Joules of heat as its temperature drops by 97 °C
- (K) 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?
- (L) 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?