

Thermal Energy

1. Define the following
 - a. Heat capacity
 - b. Specific heat capacity
2. If 45 000 J of heat are supplied to 5 Kg of aluminum initially at 25°C, what is its final temperature? (Take the specific heat capacity of aluminum as 900 J/KgK).
3. Suppose 24 000 J of heat energy is supplied to raise the temperature of a substance of mass 6 kg from 12 °C to 48 °C, calculate the specific heat capacity of the substance.
4. The heat capacity of water depends on the mass of the water being heated. TRUE or FALSE? Justify your answer.
5. Calculate the heat capacity of tea when 400 J of heat are supplied to change its temperature from 25 K to 40 K.
6. Calculate the amount of heat energy given out when the temperature of a metal block of heat capacity 520 J/K dros from 60 °C to 20 °C.