

1. If a sample of chloroform is initially at  $25^{\circ}\text{C}$ , what is its final temperature if 150.0 g of chloroform absorbs 1.0 **kilojoules** of heat, and the specific heat of chloroform is  $0.96 \text{ J/g}^{\circ}\text{C}$ ?
2. How much energy is required to heat 120.0 g of water from  $2.0^{\circ}\text{C}$  to  $24.0^{\circ}\text{C}$ ? ( $C_p$  of  $\text{H}_2\text{O} = 4.184 \text{ J/g } ^{\circ}\text{K}$ )
3. When a 220 g sample of aluminum (Al) absorbs 9612 J of energy, its temperature increases from  $25^{\circ}\text{C}$  to  $115^{\circ}\text{C}$ .  
Find the specific heat of aluminum.