1) How much heat is required to completely melt 75.0 g of ice at 273 K ?
2) How much heat is required to completely vaporize a 65.4 g sample of liquid water is initially at $86.6^{\circ} \mathrm{C}$ to steam at $100 .{ }^{\circ} \mathrm{C}$ ?
3) An unknown substance has a heat of vaporization of $3500 \mathrm{~J} / \mathrm{g}$. If a sample of that substance requires 85670 J to vaporize, what is the mass of the sample?
4) How much heat is released when 9.54 g of water cools from $78.9^{\circ} \mathrm{C}$ to $34.8^{\circ} \mathrm{C}$ ?
5) How much heat is required to completely melt 12.5 g of ice at $0.0^{\circ} \mathrm{C}$ to liquid water at $18.5^{\circ} \mathrm{C}$ ?
