PHASE CHANGE PROBLEMS

1.   How much energy is transferred when 750.0 g of water are cooled from 200°C to a
      liquid at 0°C?
      sp. ht. $_{sol}$ = 2.09 J g^{-1} °C^{-1} ΔH_{vap} = 2.26 kJ g^{-1}
      sp. ht. $_{liq}$ = 4.18 J g^{-1} °C^{-1} ΔH_{fus} = 0.332 kJ g^{-1}
      sp. ht. $_{gas}$ = 2.10 J g^{-1} °C^{-1}

2.   How much energy is required to convert 800.0 g of a substance from -50°C to
      182°C?
      m. p. = -17 °C   sp. ht. $_{sol}$ = 0.98 cal g^{-1} °C^{-1} ΔH_{vap} = 1.15 kcal g^{-1}
      b. p. = 122 °C   sp. ht. $_{liq}$ = 1.25 cal g^{-1} °C^{-1} ΔH_{fus} = 598 cal g^{-1}
                              sp. ht. $_{gas}$ = 0.71 cal g^{-1} °C^{-1}

Answers: 1. 2.17×10^6 J or 2.17×10^3 kJ
              2. 1.597×10^6 cal or 1.597×10^3 kcal