Revised August 2012

HONORS WORKSHEET 1d: Heat & Phase Change

Question:

How much heat (energy) is required to convert 54.0 g (3.00 moles) of ice at -15.0^{o}C to steam at a temperature 105.^{o}C? (6)

Data:

- Specific heat capacity of ice = 2.05 $Jg^{-1}K^{-1}$
- Specific heat capacity of water = 4.18 $Jg^{-1}K^{-1}$
- Specific heat capacity of steam = 2.08 $Jg^{-1}K^{-1}$
- Molar heat of fusion for H_2O = 6.02 kJ mol^{-1}
- Molar heat of vaporization of H_2O = 40.7 kJ mol^{-1}