CONCEPT: ENTROPY CALCULATIONS: PHASE CHANGES
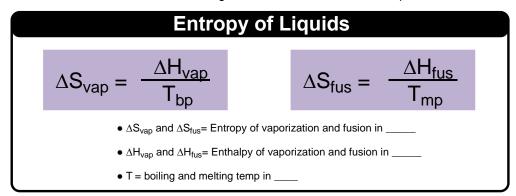
● Similar to ΔS_{surr} formula, *Entropy of Liquids* formulas are used to calculate ΔS or ΔH.

    □ However, the below formulas are used during _____ _____: Vaporization and Fusion.

Entropy of Liquids

$$\Delta S_{vap} = \frac{\Delta H_{vap}}{T_{bp}} \qquad \Delta S_{fus} = \frac{\Delta H_{fus}}{T_{mp}}$$

● ΔS_{vap} and ΔS_{fus}= Entropy of vaporization and fusion in _____

● ΔH_{vap} and ΔH_{fus}= Enthalpy of vaporization and fusion in _____

● T = boiling and melting temp in _____

EXAMPLE: Methanol has a normal melting point of 64.7°C and entropy of fusion of 9.36 J/K. Determine its enthalpy of fusion.

PRACTICE: Calculate entropy of vaporization of 8.4 g of acetic acid (CH_3COOH) with a boiling point of 118°C, ΔH_{vap} = 23.7 kJ/mol.