



AQA



Calculate $S_{\text{products/reactants}}$ by adding up the standard entropy of all the products/reactants

$$\Delta S = S_{\text{products}} - S_{\text{reactants}}$$

Disorder of substances tends to increase

A measure of disorder

Disorder increases with the changes of state:
solid \rightarrow liquid \rightarrow gas

Entropy increases as disorder increases

Disorder increases if the number of moles of products is greater than the number of moles of reactants

Entropy Change, ΔS

1.8 THERMODYNAMICS: GIBB'S FREE ENERGY CHANGE

Plotted on a graph with ΔG as the y axis and T as the x axis

Gibb's Free Energy Change, ΔG :
 $\Delta G = \Delta H - T\Delta S$

Determine the temperature at which a reaction becomes feasible

$$T = (\Delta H - \Delta G) / \Delta S$$

Feasibility of a reaction is determined by enthalpy and entropy

For a reaction to be feasible, ΔG must be negative or zero

May not take place if activation energy is so high that almost no molecules have enough energy to react

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