**What is Entropy?**

When studying reaction feasibility, we must consider both the enthalpy change in the reaction **and** the entropy change in the reaction.

Entropy can be described as disorder or chaos in a system. Entropy will increase in reactions where state changes are seen from solid 🡪 liquid 🡪 gas

E.g. CaCO3(s) 🡪 CaO(s) + CO2(g)



Entropy will also increase in reactions where there are more moles of products than reactants

E.g. CuSO4.5H2O(s) 🡪 CuSO4(s) + 5H2­O(l)



Should entropy increase or decrease in the following reactions?

1. COCl2(g) 🡪 CO(g) + Cl2(g)



1. N2(g) + 3H2(g) 🡪 2NH3(g)



1. NH4Cl(s) 🡪 NH3(g) + HCl(g)



1. C6H12(l) + 9O2(g) 🡪 6CO2(g) + 6H2O(g)



1. PCl3(l) + Cl2(g) 🡪 PCl5(g)

