Source: [KBhBIO101Enzymes]

1 | Entropy

#flo #disorganized

Startistical measure of randomness in a reaction of systems.

Entropy measured in microstates — the spead of energy in states. Greater numbers of microstates means that there is more entropy

To think about this, think about states of matter:

- Gas => Most Entropy
- Water => Meh Entropy
- Solids => Least Entropy

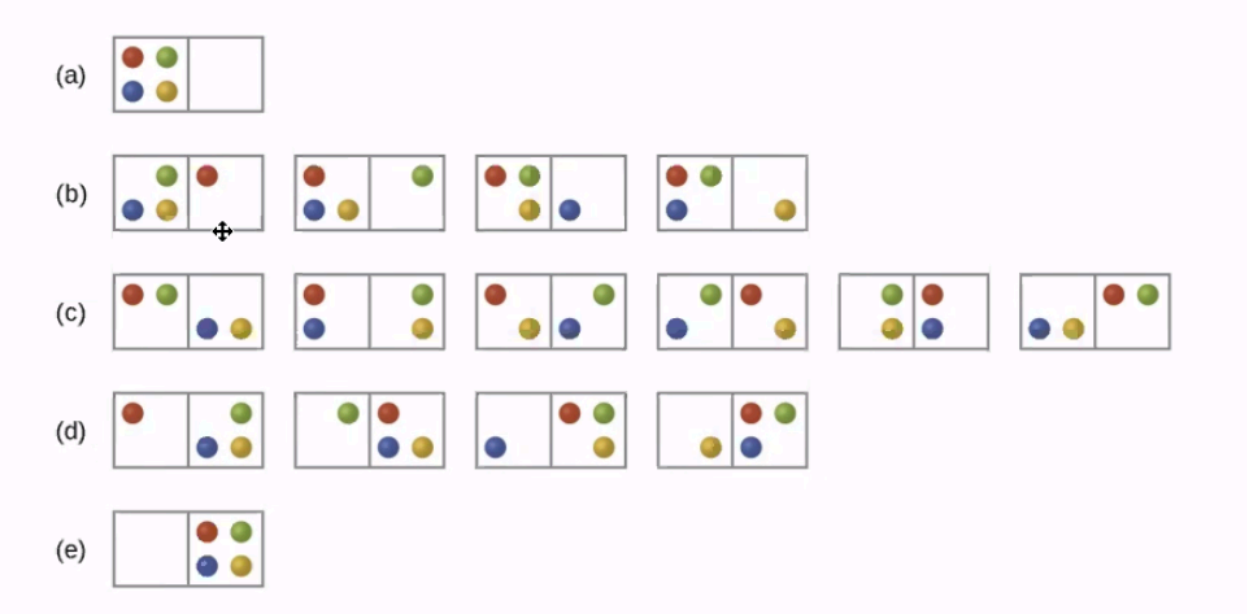

Figure 1: Screen Shot 2020-10-02 at 2.29.24 PM.png

In this image, states (a) and (e) are least likely. This is because **the greater the spread, the greater the entropy; systems like to have an increase of entropic state as much as it is possible.**

Definition 1 · **Second Law of Thermodynamics** In the universe, entropy is increasing due to chemical processes.

1.1 | Gibbs Free Energy

$\Delta G = \Delta H - t\Delta S$

Change in gibbs free energy is equal to change in enthalpy minus the change in entropy multiplied by the temperature.

ΔH	ΔS	$-T\Delta S$	ΔG	Spontanety?	Examples?
+	-	+	+	Non-Favorable Nonspontaneus: creating less entropy, heat is going in.	TBD
-	+	-	-	Favorable Spontenous: creating more entropy, heat is flowing out.	Combustion Reactions (blowing things up)
-	-	+	$\pm$	Low Temp: Spontaneous High Temp: Nonspontaneus	
+	+	-	$\pm$	High Temp: Spontaneous Low Temp: Nonspontaneus	