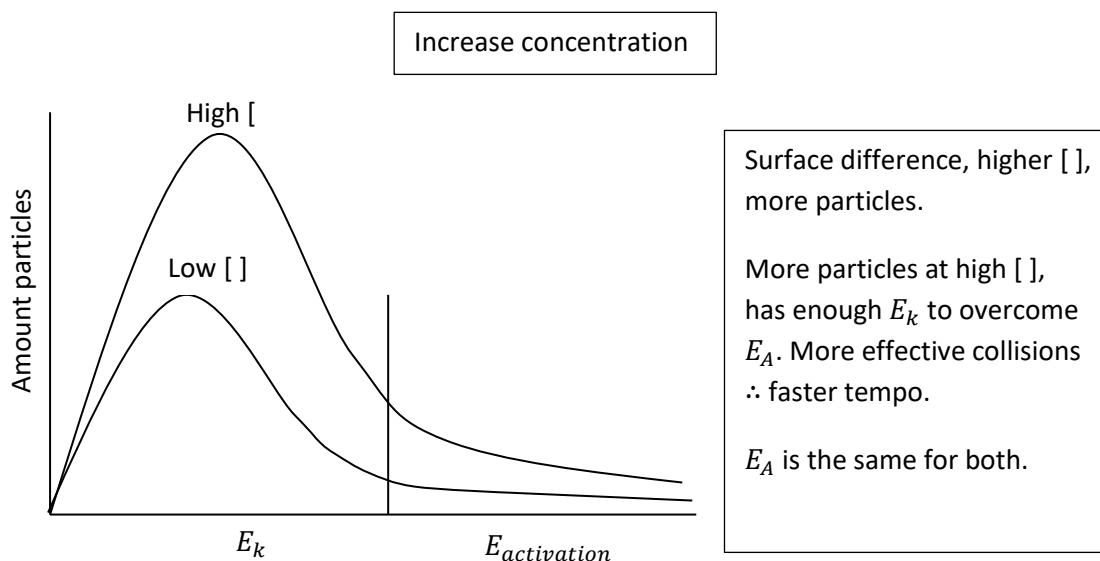
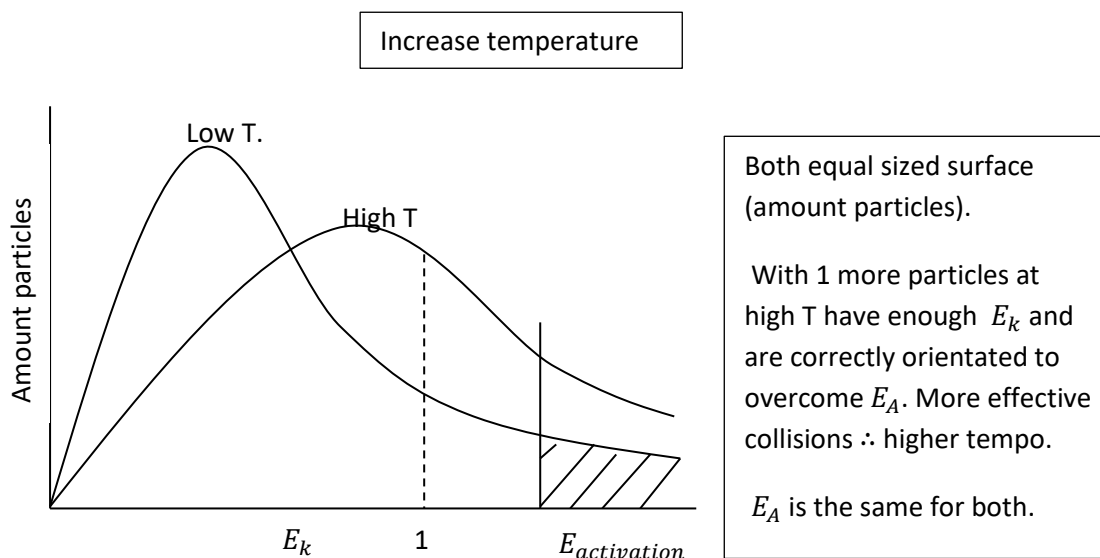


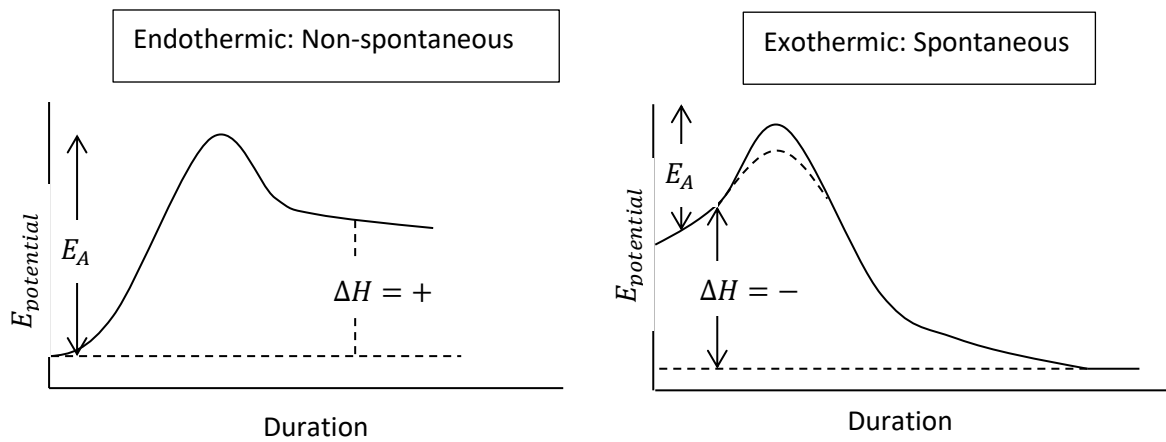
Tempo of chemical reactions: Graphs

Collision theory

- Particles must collide, be correctly orientated and be able to overcome enough E_k and E_A .
- Kinetic energy graphs/ Maxwell-Boltzman graphs:



- Potential energy graphs

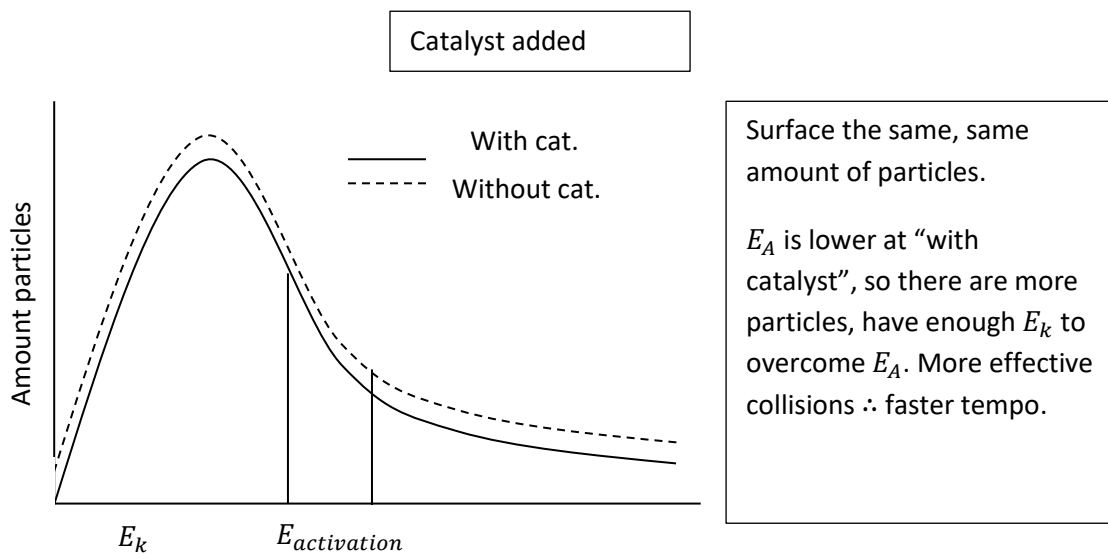


Elastic collisions

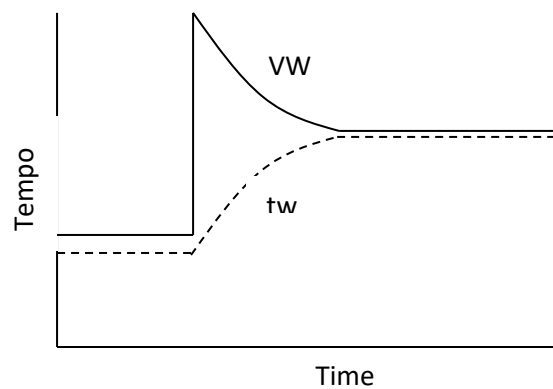
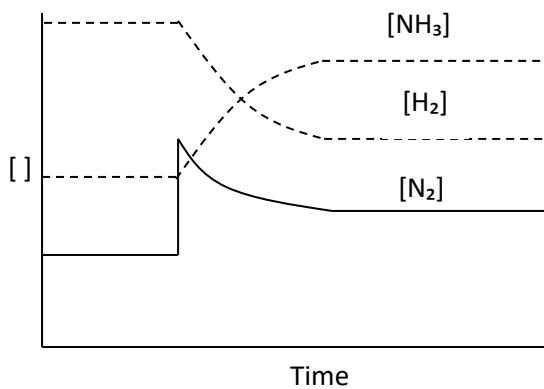
- $Total\ p(before) = Total\ p(after)$ AND $Total\ E_k(before) = Total\ E_k(after)$
- No E_k is converted to other forms of energy.
- No permanent distortion, objects cannot connect.

Unelastic collisions

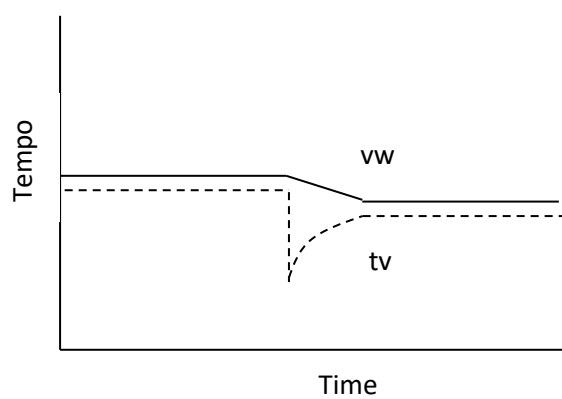
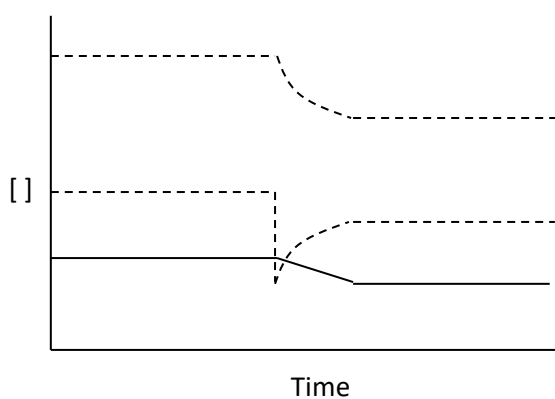
- $Total\ p(before) = Total\ p(after)$ BUT $Total\ E_k(before) \neq Total\ E_k(after)$
- E_k is converted to forms of energy such as sound, heat etc.



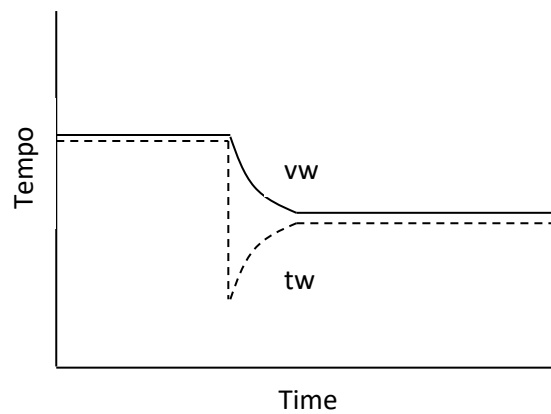
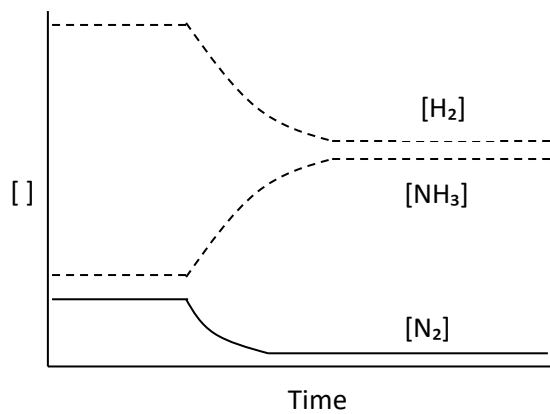
Equilibrium (SKETCHES)



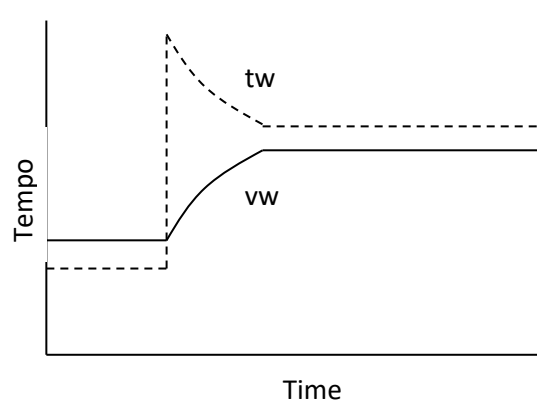
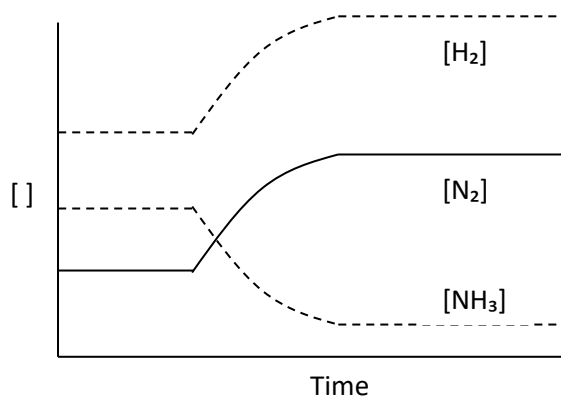
Concentration change: Increases concentration nitrogen



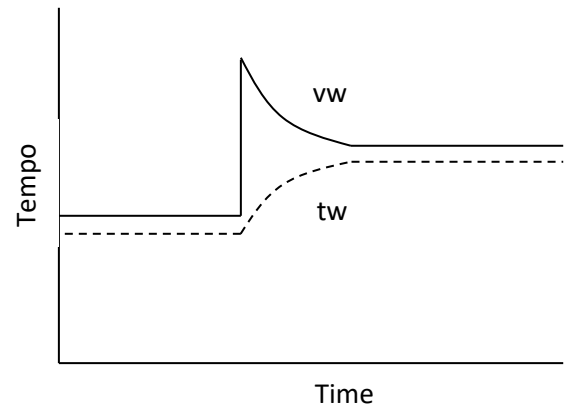
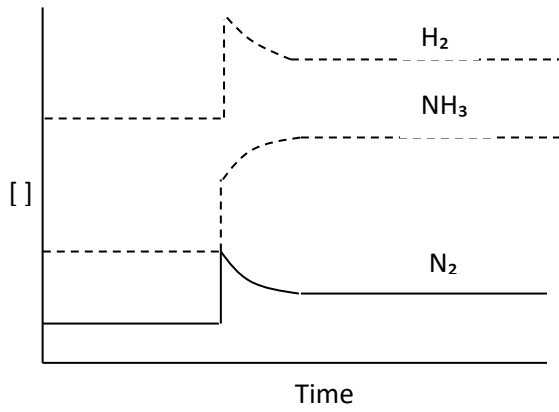
Concentration change: Lowers concentration ammonia



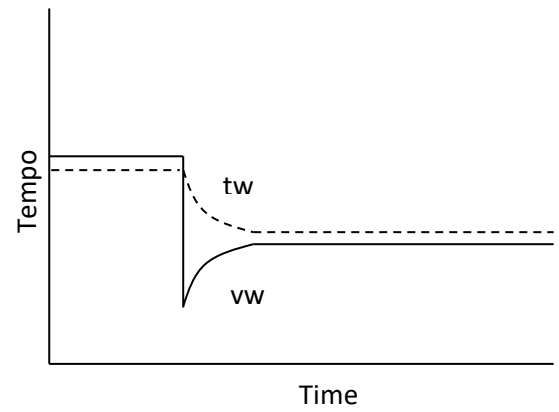
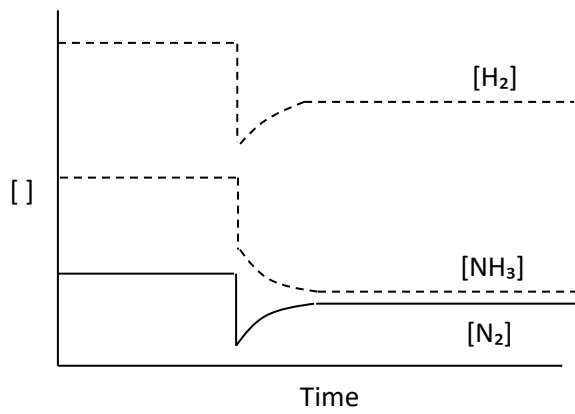
Temperature change: lowers the temperature



Temperature change: Increases the temperature



Pressure change: Increases pressure



Pressure change: Lowers pressure

