- ~~competitive inhibitor is better because the binding is not covalent, ↑[S] reverts v_{max}, doesn't alter active site~~
- A – pre-exponential factor, collision frequency, limit of how fast the molecules can react

  E_a – activation E, min E that reactants must posses
- when k is not correct this may be due to: at ↑T E denatures, huge T difference may change A
- lock and key – S has a shape that matches active site
  induced fit – shapes of S and active site match when S binds
- ↓[S], $K_M >> [S]$ $v \approx \frac{v_{max}[S]}{K_M}$, 1st order reaction

  ↑[S], $K_M << [S]$ $v \approx v_{max}$, 0th order reaction

  Reaction order differs because $[E]_T$ is constant
  ↑[S] E is saturated with S and no longer depends on [S]
  ↓[S] each added S has a place to bind & thus has a big influence on rate
- from Arrhenius equation: k depends on T
- $v = -\frac{d[NO]}{dt} = -\frac{d[O_3]}{dt}$
- $[A]_0 = 0.1$, $[P] = 0.001$ } $[A] = 0.1 - 0.001$ (to put into integrated form of law)
- A is constant so if [ ] are constant k ~ v (proportional)