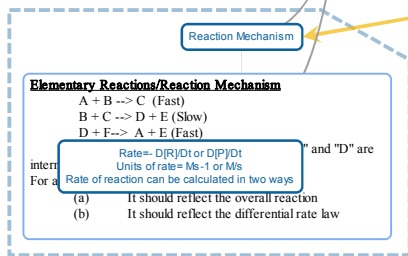
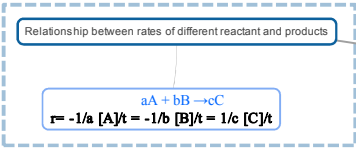
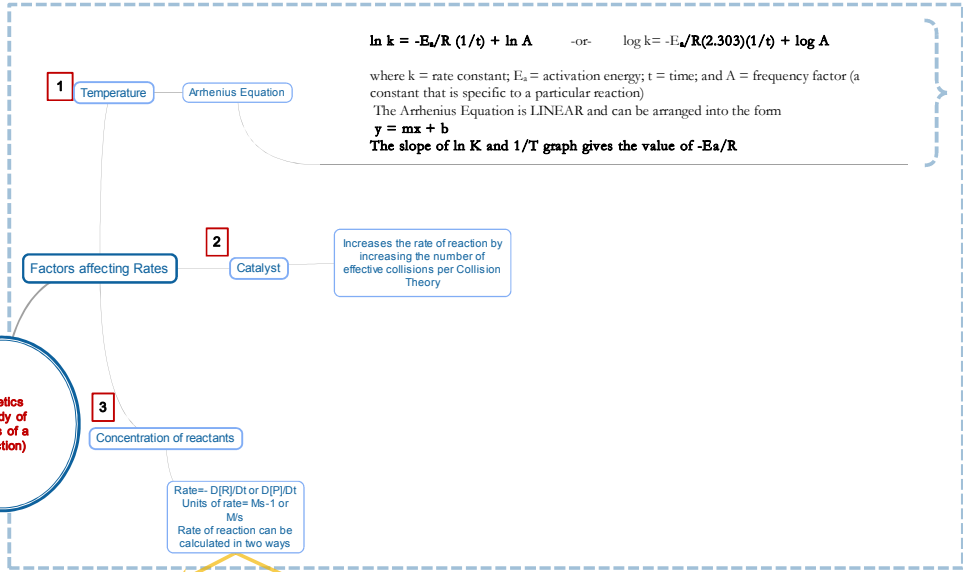


**Kinetics (study of rates of a reaction)**



**Using equation stoichiometry of a known elementary reaction**

**Experimentally**

**Initial Rates Method**

Initial Concentrations (mol L <sup>-1</sup> ) [M]	Initial Concentrations (mol L <sup>-1</sup> ) [N]	Initial Rate of Reaction (Ms <sup>-1</sup> )
0.010	0.010	2.5x10 <sup>-3</sup>
0.020	0.010	5.0x10 <sup>-3</sup>
0.020	0.030	4.5x10 <sup>-2</sup>

Subtopic

**Integration Method**

ORDER	EQUATION	HALF - LIFE EQUATION
Zero	[A] <sub>t</sub> - [A] <sub>0</sub> = -kt	[A] <sub>0</sub> /2k
First	ln [A] <sub>t</sub> - ln [A] <sub>0</sub> = -kt log [A] <sub>t</sub> - log [A] <sub>0</sub> = -kt/2.303	0.693/k
Second	1/[A] <sub>t</sub> - 1/[A] <sub>0</sub> = kt	1/k[A] <sub>0</sub>