

Table discussed in the videos:

Kinetics for reactions with a single starting material ("A")

	<b>Zero order</b>	<b>First order</b>	<b>Second order</b>
<b>Differential rate law</b>	Rate = $k$	Rate = $k[A]$	Rate = $k[A]^2$
<b>Integrated rate law</b>	$[A] = -kt + [A]_0$	$\ln[A] = -kt + \ln[A]_0$	$\frac{1}{[A]} = kt + \frac{1}{[A]_0}$
<b>Plot needed to give a straight line</b>	$[A]$ versus $t$	$\ln[A]$ versus $t$	$\frac{1}{[A]}$ versus $t$
<b>Relationship of rate constant to the slope of straight line</b>	Slope = $-k$	Slope = $-k$	Slope = $k$
<b>Half-life</b>	$t_{1/2} = \frac{[A]_0}{2k}$	$t_{1/2} = \frac{0.693}{k}$	$t_{1/2} = \frac{1}{k[A]_0}$