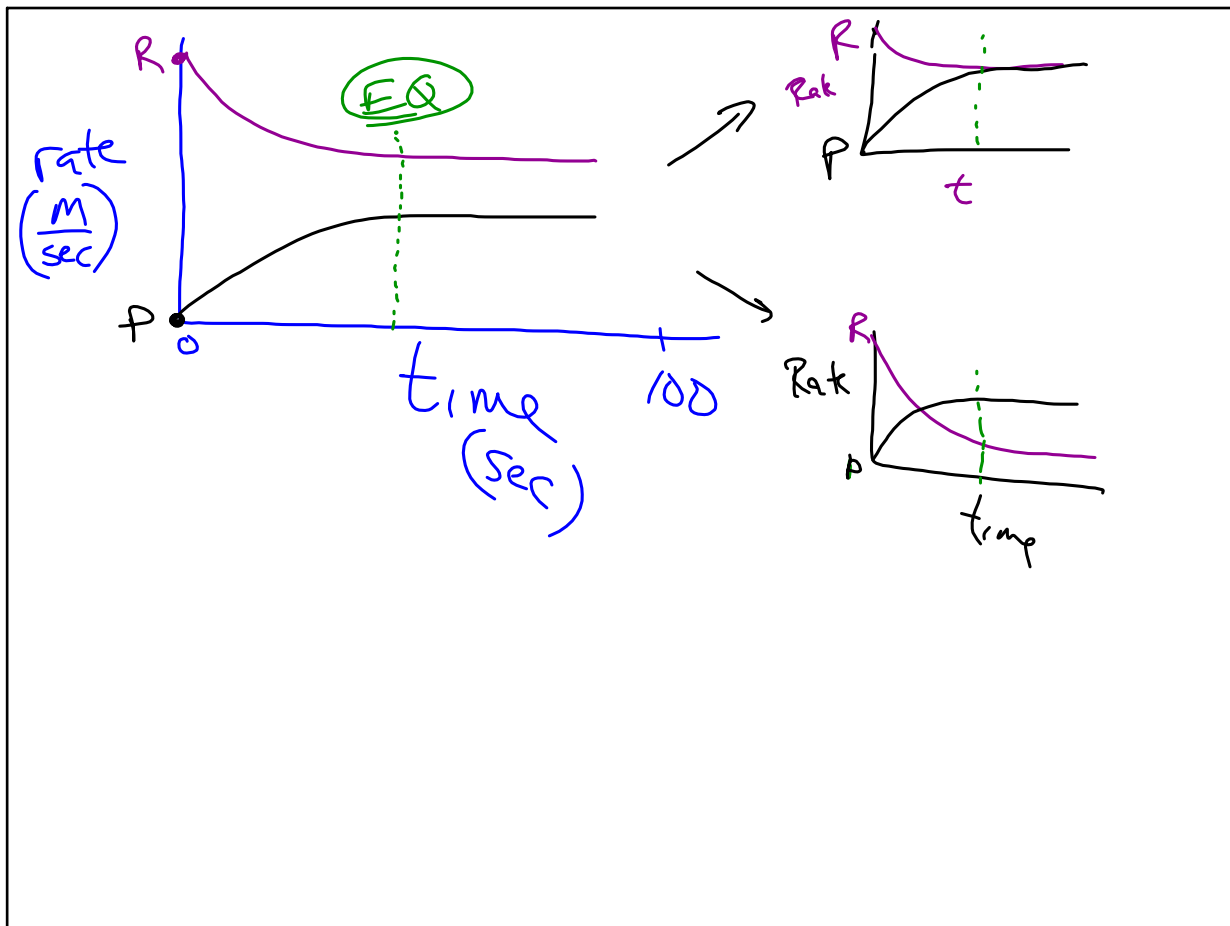
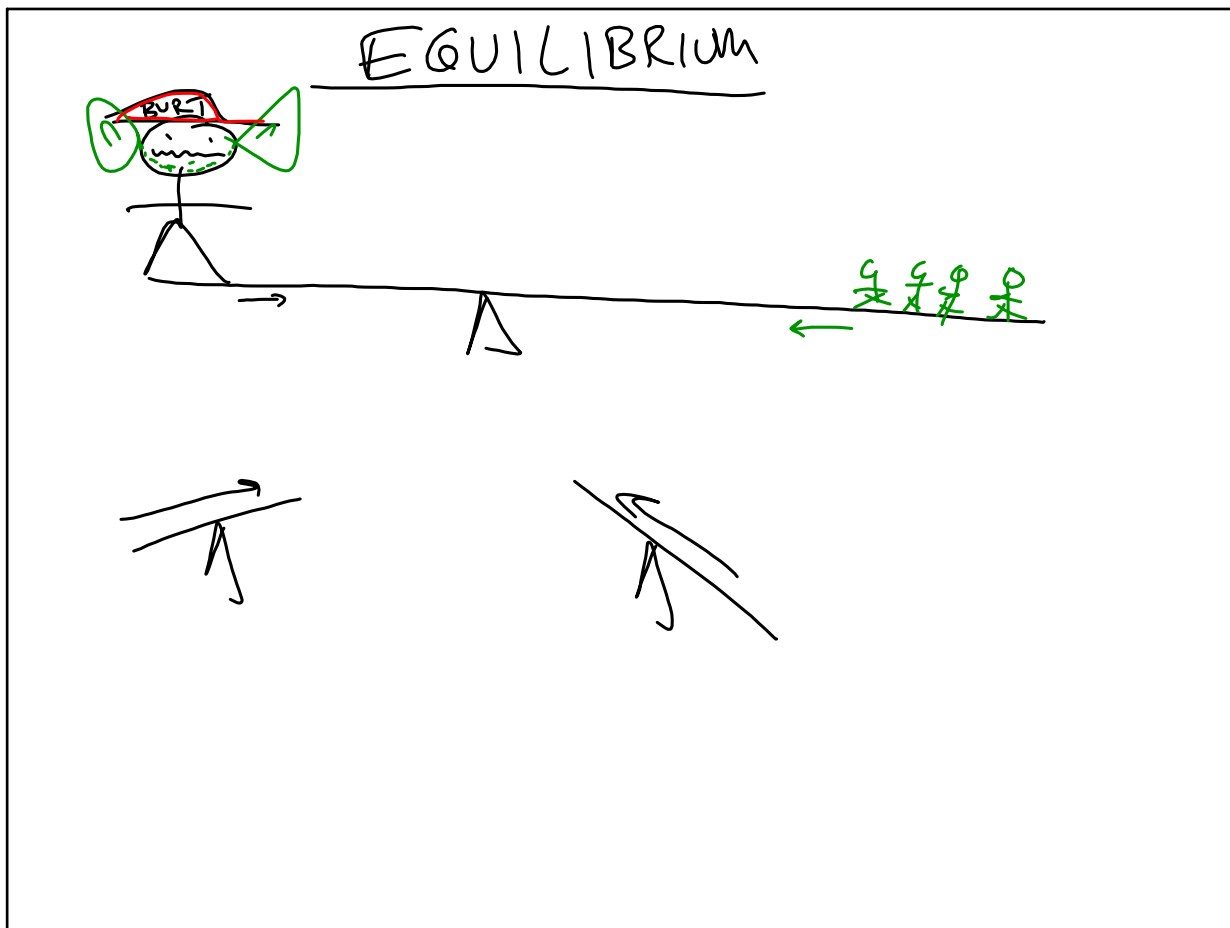


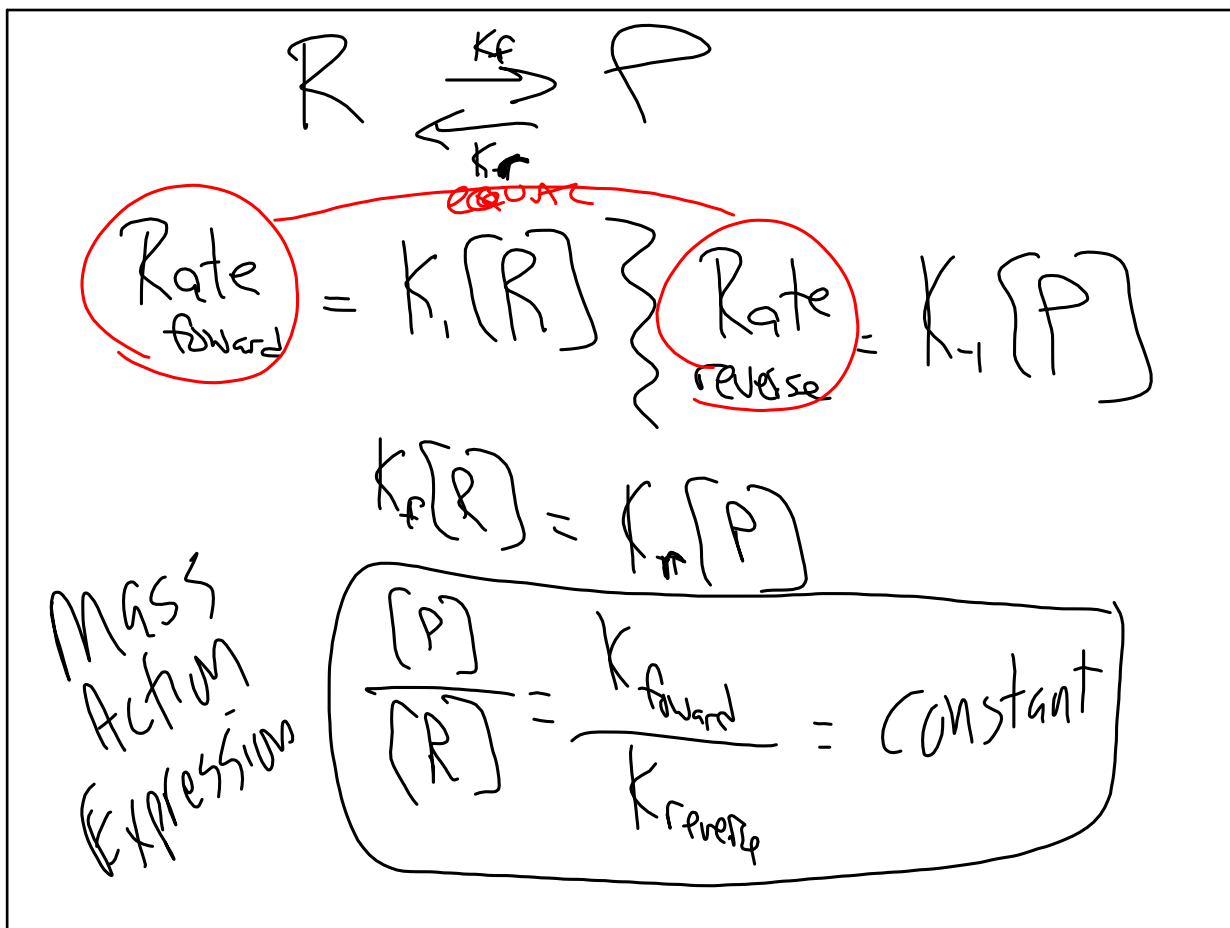
Feb 8-7:35 AM



Feb 8-7:56 AM



Feb 8-8:00 AM



Feb 8-8:05 AM

$2\text{H}_2\text{O} \rightleftharpoons 2\text{H}_2 + \text{O}_2$

Equilibrium Constant $K_{\text{EQ}} = \frac{[\text{Prod}]^{\text{coeff}}}{[\text{React}]^{\text{coeff}}} = \frac{[\text{H}_2]^2 [\text{O}_2]^1}{[\text{H}_2\text{O}]^2}$

$K_f = \frac{1}{K_r}$

Reciprocal

Flip rxn $\Delta H \rightarrow -\Delta H$
 $K \rightarrow \frac{1}{K}$

Feb 8-8:09 AM

$a\text{A} + b\text{B} \rightleftharpoons c\text{C} + d\text{D}$

$K_f = \frac{[\text{C}]^c [\text{D}]^d}{[\text{A}]^a [\text{B}]^b}$

K_p
 K_{EQ}
 K_c

Aqueous (aq)

General Rule

Forward

MASS ACTION Expression

Molarity concentration

Feb 8-8:13 AM

GASES

$$N_2O_4(g) \rightleftharpoons 2NO_2(g)$$

$$K_p = \frac{(P_{NO_2})^2}{(P_{N_2O_4})^1}$$

Pressure \swarrow

Feb 8-8:14 AM

$$PV = nRT$$

$$P = \frac{n}{V} RT$$

$$P = MRT$$

Subtract
 \rightarrow # moles product
 $-$ # moles reactant
 Δn

$K_p = K_c (RT)^{\Delta n}$
 (K_c)

Feb 8-8:17 AM

$A + B \rightleftharpoons C$ $K = \frac{[Prod]}{[React]}$

5000
 $K = \text{Very large \#}$
 $K \gg 1$
 FORM LOTS of Product
 favors forward rxn

1/5000
 $K = \text{Small \#}$
 $K \ll 1$
 Have not made much Product
 favors reverse rxn

Feb 8-8:19 AM

Pure Solids ← IGNORED (1)
 Pure Liquids NO Δ in concentration

$CaCO_3(s) \rightleftharpoons CaO(s) + CO_2(g)$

$K_p = \frac{(P_{CO_2})(l)}{1}$

Feb 8-8:22 AM

Flip	$\frac{1}{K}$	$-\Delta H$
Double	K^2	$2\Delta H$
$\frac{1}{2}$	$K^{\frac{1}{2}}$ or \sqrt{K}	$\frac{1}{2}\Delta H$

Feb 8-8:27 AM

15 / 16, 22, ~~44~~
42

Feb 8-8:30 AM