(#8-6)

What happens when you mix acids and bases?

Neutralization Reactions

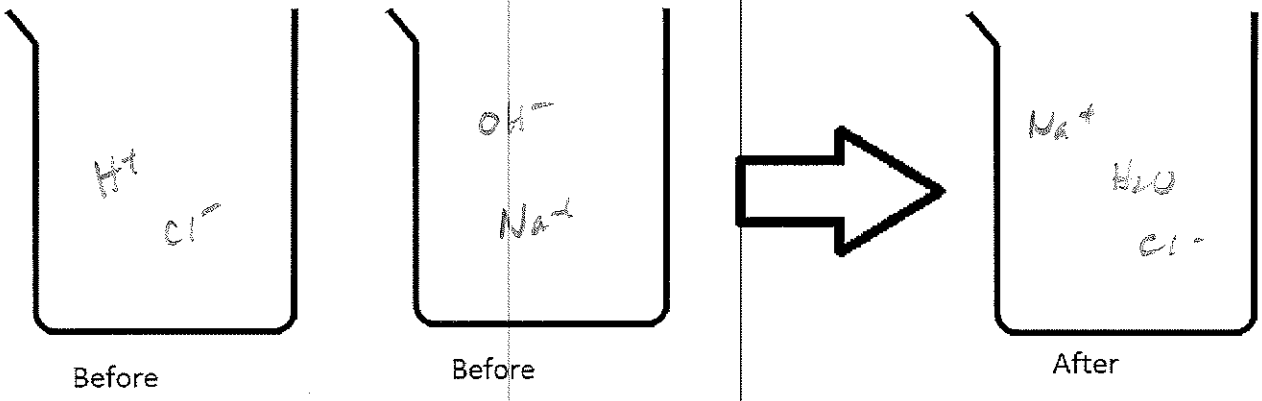
Complete the products of each neutralization reaction. (All acids and bases are considered strong)

Reactants	Molecular reaction	Net-ionic reaction
1. $HCl + NaOH \rightarrow$	$HCl + NaOH \rightarrow NaCl + H_2O$	$H^+ + OH^- \rightarrow H_2O$
2. $HBr + KOH \rightarrow$	$HBr + KOH \rightarrow H_2O + KBr$	$H^+ + OH^- \rightarrow H_2O$
3. $H_2SO_4 + NaOH$ (1x2)	$H_2SO_4 + NaOH \rightarrow H_2O + Na_2SO_4$	$H^+ + OH^- \rightarrow H_2O$

Mathematical calculation of neutralization

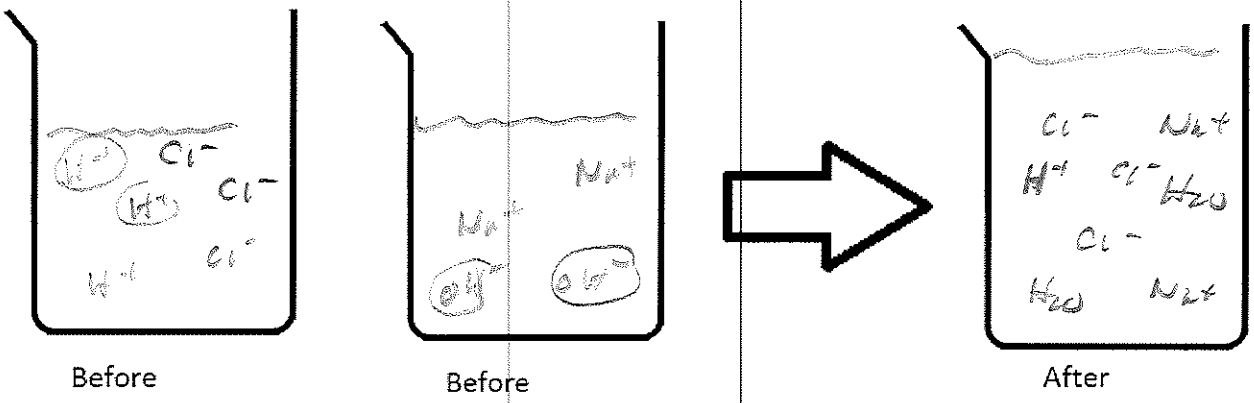
Reactants	Prediction A/B	Acid/base calculations ISE Table Calculations of each substance
4. 50 mL of 0.5M HCl + 50 mL of 0.5M NaOH	N	$M = \frac{mol}{L}$ ← same ← equal ∴ Equal
5. 40mL of .6M HCl + 40 mL of 0.5M NaOH	A	HCl $M \cdot L = mol$ (1x1 acid)
6. 75mL of .5M HBr + 40 mL of 0.5M KOH	A	HBr $M \cdot L = mol$ KOH
7. 60mL of .01 M HNO_3 + 60 mL of .005M $Ca(OH)_2$	close? N	HNO_3 .01 = M $Ca(OH)_2$ (x2) M .005 equal moles
8. 10mL 0.1M H_2SO_4 is + 10mL of .1M $Ca(OH)_2$	N	x2 H x2 OH^- ≈ Neutral

9. Draw the pictures of substance in # 4



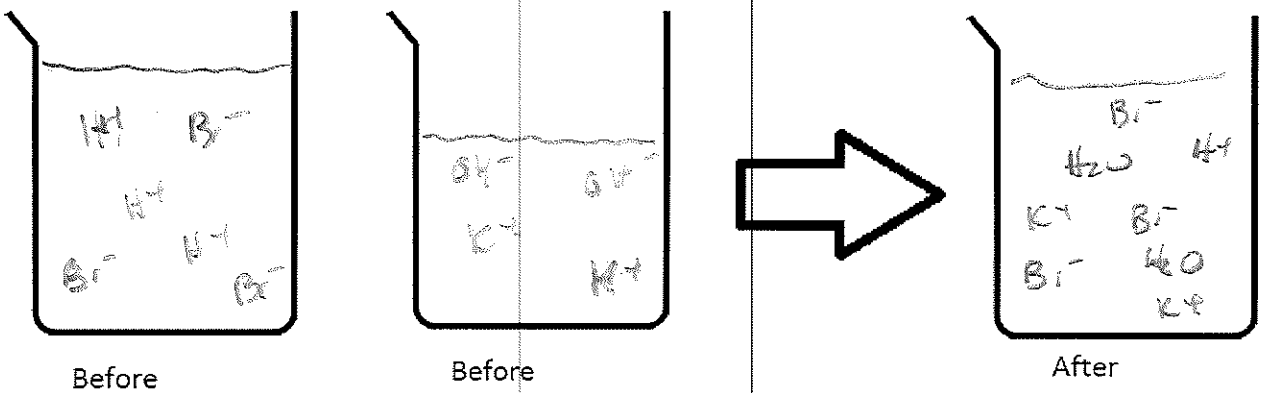
Before Before After

10. Drew the pictures of each substance in #5.



Before Before After

11. Draw all of the species in Question # 6.



Before Before After