Properties of Acids and Bases

Examples of acids:	Acids		Bases	Examples of
	Taste		Taste	<u>bases</u> :
Strong Acids ionize completey:	pH than 7		pHthan 7	
ll	Acids effect indicators:		Bases effect indicators:	
nitric	Acids turn litmus to		Bases turn litmus to	
– hydrochloric	Acids turn methyl o	range to	Bases turn methyl orange to	
– sulfuric			Bases turn phenolphthalein to	
Weak Acids ionize slightly:	Acids	bases	Bases	acids
	Proton		Proton	
– acetic	(Proton = H ⁺ = hydrogen ion) (Proton = H ⁺ = hydrogen ion)			
	Increaseio	n concentration in	Increase ion concentrati	on in
	solution		solution	
	Acids are Bases are			
	Acids react with carbonates to produce a			
	salt, water and		Bases feel	
	Acids react with ac	tive		
	to produce	gas		
Reaction of an acid with a base () always produces a and:				
	<u>Acid</u>	<u>Base</u>	<u>Salt</u> <u>water</u>	
	HCl (aq) +	NaOH (aq) →	NaCl (aq) + H_2O	
	HNO_3 (aq) +	$KOH(aq) \rightarrow$	$KNO_3(aq)$ + H_2O	
Reaction of an acid with an active metal produces a and and gas:				
	<u>Metal</u>	<u>Acid</u>	Salt Hydrogen gas	
	Zn (s) +		$ZnCl_2(aq) + H_2(g)$	
	Mg (s) +	$2HNO_3$ (aq) \rightarrow	$Mg(NO_3)_2 (aq) + H_2 (g)$	
Reaction of an acid with a carbonate produces a,				gas:
	Acid	<u>Carbonate</u>		Carbon dioxide gas
	2HCl (<i>aq</i>) +			$CO_2(g)$
	$H_2SO_4(aq)$ +	$MgCO_3(aq) \rightarrow$	` ''	$CO_2(g)$