

>> Diane Jewell: A salt made from a weak acid and a strong base will end up giving you a basic solution. In other words, if you take that salt and you put it in water the pH of that solution will be greater than seven. Let's take a look at an example. Here's a weak acid, hydrofluoric acid is a very weak acid. Lithium hydroxide, remember lithium is a group 1A element, this is a hydroxide from a 1A element, it gives you a strong base. When we put them together if we get rid of the hydrogen here we have fluorine, get rid of the hydroxide you have lithium, the salt is lithium fluoride. So putting this in liquid, putting it specifically in water because it comes from the weak acid and the strong base you're going to end up with a basic solution. Okay, so what happens now if you're given this salt and you're asked what kind of a solution will you have when you put this salt in water, will it be acidic, basic or neutral? You have to again take this apart, put it back into its components, which one forms the acid, which one forms the base and are they strong or weak acids and bases. So calcium if we add on our hydroxide will give us calcium hydroxide. Calcium hydroxide is a 2A hydroxide and 2A hydroxides do tend to be strong hydroxides, magnesium hydroxide and calcium hydroxide are both strong bases okay. So this would be a strong base. What happens when we add a hydrogen to sulfur though? Add a hydrogen ion we get HS minus. Now if you look on your table of acids you'll find that this is a very weak acid. And so now we have a salt that's made from a weak acid and from a strong base from the cations and the anions from those two elements, those two compounds. And that we know is going to give us a basic solution when we add it to water. How can we remember this okay? Just remember what is a strong part of this, is it the acid or the base? It's the base, therefore, it's going to be a basic solution.