

Name _____ Period _____

Partner _____ Date _____

AP Chemistry Lab
The pH of Salt Solutions

Prelab Questions

Fill in the following table about salt solutions

Solution	Parent Acid	Strength	Parent Base	Strength	Acidic or Basic
$\text{NH}_4\text{C}_2\text{H}_3\text{O}_2$					
NaCl					
$\text{NaC}_2\text{H}_3\text{O}_2$					
NH_4Cl					
NaHCO_3					
Na_2CO_3					

1) Write the equation for the reaction of ammonium ion with water

2) Write the equation for the reaction of bicarbonate ion with water

3) Write the equation for the reaction of carbonate ion with water

4) Why doesn't the sodium ion react with water?

5) Why doesn't the chloride ion react with water?

Procedure

There are sample beakers of the six salts to be tested available in the room. They are all 0.10M solutions. Measure the pH of each salt. Be very careful not to contaminate the solution since other students will be testing them also.

Data Tables

Solution	Expected pH	Measured pH	Explanation of any differences
$\text{NH}_4\text{C}_2\text{H}_3\text{O}_2$			
NaCl			
$\text{NaC}_2\text{H}_3\text{O}_2$			
NH_4Cl			
NaHCO_3			
Na_2CO_3			
Distilled H_2O			

Post Lab Questions

- 1) What factors could contribute to the pH of distilled water not being 7?
- 2) How will the pH of water affect the pH of these salt solutions?
- 3) How big a factor is the pH meter in these readings?
- 4) What could you do to help bring the pH of distilled water closer to 7?
- 5) Is the pH of neutral water always 7?