Name _____ Period _____

Partner_____ Date _____

AP Chemistry Lab
Preparation and Properties of a Buffer

Prelab Questions

1) What is a buffer?

2) What equation is used to calculate the pH of a buffer?

3) What two things must be present in a buffer?

4) What happens to the concentration of HA when you add acid to a buffer?

5) What happens to the concentration of HA when you add base to a buffer?

6) What happens to the concentration of A^- when you add acid to a buffer?

7) What happens to the concentration of A^- when you add base to a buffer?

Procedure

1) Find the mass of a clean 250-mL beaker.
2) Add 4.1 g of solid sodium acetate to the beaker.
3) Using a graduated cylinder add 8.5-mL of 6M acetic acid to the beaker.
4) Add 91.5 mL of distilled water to the beaker for a total volume of 100 mL. Stir well.
5) Label four other beakers 1, 2, 3 and 4.
6) Pour 50 mL of the buffer just prepared into beakers 1 and 3.
7) Pour 50 mL of water in beakers 2 and 4.
8) Measure the pH of each solution using a pH Probe.
9) Pipet 1 mL (20 drops) of 6M HCl into beakers 1 and 2. Measure the new pH.
10) Pipet 1 mL (20 drops) of 6M NaOH into beakers 3 and 4. Measure the new pH.
11) Mix all four solutions together and pour down the drain.

Data

	Beaker 1	Beaker 2	Beaker 3	Beaker 4
What is in this beaker?				
Theoretical pH of this solution				
What is the initial measured pH of this beaker?				
Explain any Discrepancies that you may see				
Qualitatively predict what will happen when you add 20 drops of 6.0 M HCl				
What is the final measured pH of this beaker?				
Qualitatively predict what will happen when you add 20 drops of 6.0 M NaOH				
What is the final measured pH of this beaker?				