

Name: _____

PART II. PROCEDURE for PRACTICING TITRATIONS

1. Obtain and wear goggles.
2. Assemble the ring stand and buret clamp and attach two burets (one on each side). Using a piece of masking tape, label one buret HCl and the other buret NaOH.
3. Connect a pH Sensor to a Go! Link and connect this to a USB port on the laptop provided.
4. Start the Logger *Pro* program on your computer. When the program opens, you should see pH readings being taken in real time at the bottom left of the computer screen. Keep the pH sensor capped on its storage bottle until you are ready to use it. Go to File, Open, Advanced Chemistry w Vernier, and choose 19 Buffers.
5. Gather two 100-mL beakers and label one 0.2 M HCl and the other 0.2 M NaOH. Fill each beaker with the labeled solution. Label a 600-mL beaker as "Waste". Fill a Dixie cup with distilled water and place a plastic pipet near this cup.
6. Rinse three (approximately 10 mL portions) of HCl and NaOH solutions through the specified burets and drain each portion into a waste beaker. Then fill the burets with their solutions.
7. Place 50.0 mL of distilled water into each of two 100-mL beakers. Carefully uncap the pH meter – leave the lid attached to the pH meter, but set the storage bottle aside. Rinse the pH meter with distilled water using the plastic pipet and the Dixie cup. Blot the pH meter dry with a Kim wipe. Lower the pH meter's electrode into one of the beakers and determine the pH. Record this value on the Part II Data Sheet.
8. Add a small stir bar to the 100-mL beaker with the pH meter, and set the beaker on top of the stir plate. Turn the stir plate on low. Suspend the pH meter in the beaker of water. ***Use CAUTION with the pH sensors when the stir bars are in use. Make sure the sensor is not struck by the stirring bar.**
9. With the stir bar slowly stirring the water, release exactly 1.00 mL of HCl solution (as close as possible) from the buret. Record the new pH value on the Part II Data Sheet.
10. Repeat Steps 7-9 with the second beaker, adding 1.00 mL of the NaOH solution. Record each pH value on the Part II Data Sheet. **Be sure to rinse the pH meter and blot dry each time you use it in a new solution.**
11. Carefully remove the stir bars from both beakers, rinse the stir bars with distilled water and wipe dry with a paper towel. Set them aside in a safe place. Discard both solutions in the Waste containers provided.
12. Fill the same two beakers with 50.0 mL each of the buffer pH 7 solution that has been provided. Repeat steps 7-9 using the buffer solutions instead of the water for both HCl and NaOH. Record all pH values collected on the Part II Data Sheet. Rinse the pH meter and return to its storage bottle.
13. As a group, discuss what you have observed in PART II of this lab session. Record your observations under the Follow-up Questions of the PART II Data Sheet.