

Name: _____

CHEMISTRY 11 Titration Lab

Determination of the Molarity of an Acid Solution

Step 1: Collect and assemble the following materials: 10.0 mL pipette and rubber bulb, 125 mL Erlenmeyer flask, 50.00 mL burette, burette clamp, ring stand and funnel, 2 small beakers with ~ 50 mL NaOH & ~ 30 mL H₂SO₄, a vial of phenolphthalein

Step 2. Using the funnel, fill the Burette with the provided

Step 3: Using the pipette withdraw precisely 10.0 mL of the unknown [H₂SO₄] and dispense this into a clean 125 mL Erlenmeyer flask

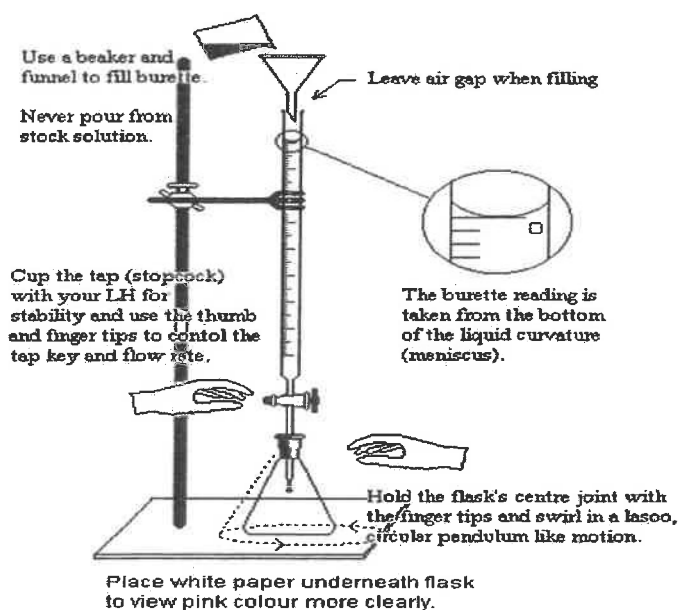
Step 4: Add a few drops of the Indicator: *phenolphthalein* to the acid in the Erlenmeyer.

Step 5: Open the stopcock on the burette to dispense the required volume of Base (be sure to record the initial and final volume values to two decimal places)

Step 6: Make sure to swirl the Erlenmeyer flask as you drop the base and be ready to stop titrating as soon as the colour change is observed

Step 7: Repeat this process a minimum of TWO times (for a total of 3 trials) and fill out the attached data table

Step 8: Rinse out all the glassware and return all the equipment to the designated location in the classroom



Data and Observations:

<u> </u> M NaOH	Trial 1	Trial 2	Trial 3
Initial volume of NaOH			
Final Volume of NaOH			
Volume used:			
Average volume:			

In the space below explain how you determined the concentration for the unknown **[H₂SO₄]**. Be sure to include the balanced chemical equation and why you used the indicator "phenolphthalein". Show how you calculated the average volume of NaOH as well as how you calculated the concentration of the unknown **[H₂SO₄]**.