Chemistry 3A

Introductory General Chemistry

Experiment 0a

Lab Exploration

Mitch Halloran

Fresno City College

Special Guidance Today

- Because you did not have access to your laboratory manuals for this start of lab session, I will quickly guide you to what you need to pay attention to
- You will have your manuals today for reference
- You have a data report form you fill out today
- Use ink pen. NO PENCILS. Just cross-out mistakes

- There are 3 parts to Expt 0a
- We skip Part 1 – Scavenger Hunt
- It has you looking for 20 items; we can learn this later

Equipment You Will Use

electronic balance

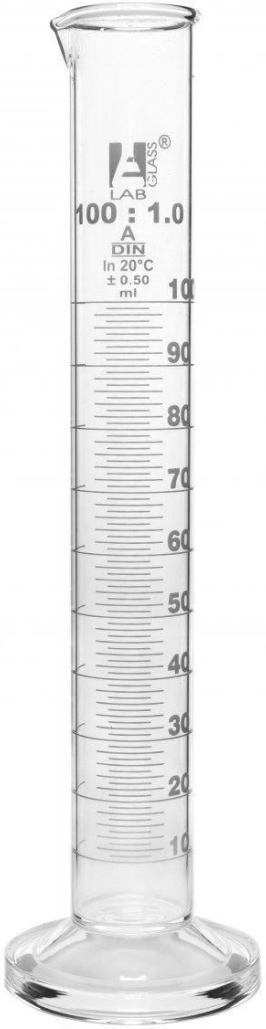
50 mL volumetric flask

50 mL beaker

Equipment You Will Use

25 mL
buret

0.1 mL
division marks



100 mL
graduated cylinder

Equipment You Will Use

Part 2: Using A Buret

Equipment/Material Needed

Buret *handle carefully. It is an easily breakable analytical device!*	
Buret clamp	50 mL beaker
50 mL graduated cylinder	Erlenmeyer flask

Consumables Needed

DI water (~60 mL)	food coloring (2 dyes)

- Page 12: mix 1 gtt food dye in ~30 mL DI H_2O in beaker; fill buret; record initial reading on buret; record vol + sketch
- p 13: fill grad cylinder ~20-30 mL DI H_2O; record vol + sketch; pour in Erlenmeyer; add different food dye color; mix
- from buret, add ~ 5 mL dyed H_2O to Erlenmeyer flask while swirling to mix (DON'T LET FLASK HIT BURET TIP)
- Buret stopcock control skill: 1 mL volume + droplet formation

Part 3: Using Pipets, Volumetric Flasks

Equipment/Material Needed

50 mL volumetric flask (2) w/ stopper	50 mL beaker
scoopula	10.00 mL volumetric pipet
balance	

Consumables Needed

4-6 g NaCl (sodium chloride)	food coloring (2 dyes)
DI water	

- Page 14: tare balance; weigh empty 50 mL stoppered vol. flask; record to data report
- Tare 50 mL beaker; add NaCl; record mass
- Add ~10 mL DI water; swirl to dissolve as much as possible; transfer to 50 mL vol flask; add gtt dye; add more H_2O, follow transfer method; fill to flask mark w/ transfer pipet
- Take 10.00 mL from flask to new 50 ml flask (use bulb carefully). Fill to flask mark as before using transfer pipet
- Compare color of solutions, fill out data report

Clean Up

- Water and salt solutions can safely be poured down the drain. (Like any household solutions)

  This will not be the case for many solutions which may be strong acids & bases or certain inorganic compounds/salts
- Glassware cleaning:
  - First with a mild detergent solution: a precaution for organic substances that are lipophilic
  - Final rinsing with DI water a couple of times:
    - 1st rinse with a very small volume
    - 2nd rinse with a somewhat bigger volume
- The best drying of water-rinsed containers and equipment is air drying. You can usually properly place inverted glassware and other equipment on the angled peg drying racks.