1. **Measurements and Instruments**

Graduated cylinder, volumetric flask, pipet

beaker Erlenmeyer flask

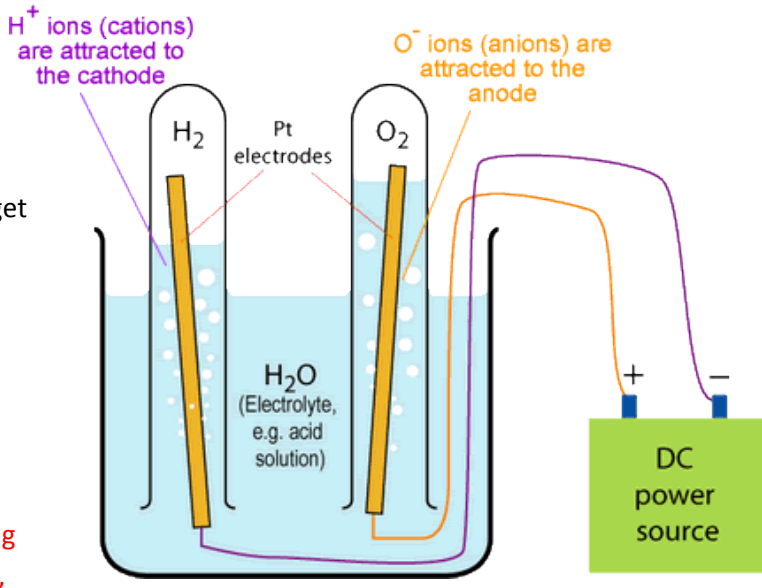
Identify each the above and group them according to accuracy.

Most accurate is the pipet; the least accurate is the beaker. The wider the glassware is where the marker is, the less accurate it is.

2. **Electrolysis**

a) Which electrode(+) or (-) is generating the hydrogen?

(-) see diagram



b) What would you measure (show in diagram) to get the ratio of hydrogen to oxygen produced?
You measure the part in the test tube *above the water*

c) How could you test for hydrogen?

Flaming or glowing splint test will cause a popping sound. Since you don't know which one it will be, glowing test in this case is better.

d) For oxygen?

glowing splint test will make the glow burst into a flame

e) What do those thin rectangles in the test tubes represent?

electrodes

f) Why was electrolyte added to the solution?

To help electricity and flow and make the reaction occur faster

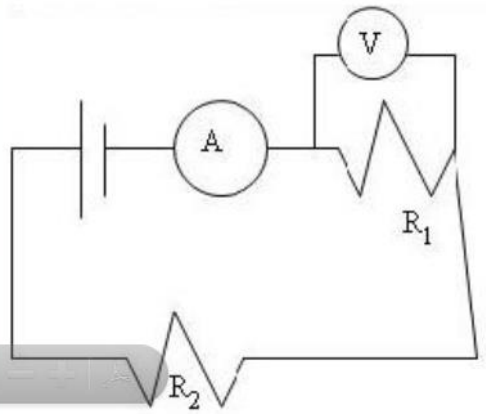
3. **C-Cycle Lab**

What was done	Observation	What it represents in C-cycle
You blew CO2 into a solution of CaO	Got cloudy	NONE
You blew more CO2 into solution (this made H2CO3) The solid CaCO3(cloudy) then reacted with H2CO3	Became clear	Rainwater dissolves CO_2 to produce acid; the acid then reacts with limestone
You added base to the Ca(HCO3)2 produced form the previous step	Went cloudy again	The dissolved ion from limestone can be turned back into limestone in the form of shells.
Water was added to bromothymol blue	Stayed blue	NONE
We added acid into the mixture of water and bromothymol blue	Went orange	NONE
We blew CO2 into the mixture of water and bromothymol blue	Went green-yellow	It reveals that CO_2 makes water(oceans and rivers) acidic.

Just read and study #4 and then there's #5 to answer.

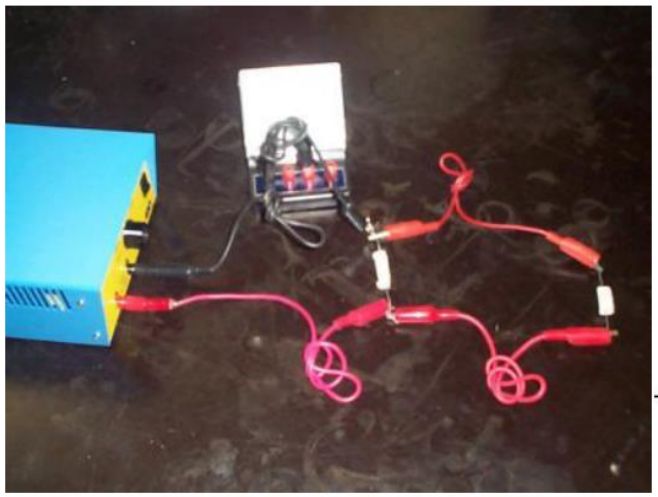
4. How to Build Circuits

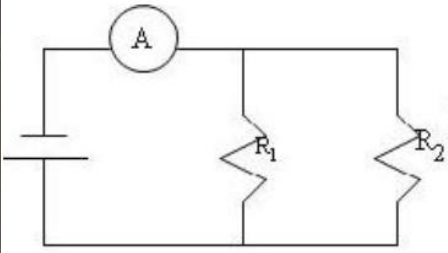
Case 1: Series Circuit (Note how the voltmeter is connected to each end of the resistor. The ammeter is only connected to one end.



Case 2: Parallel Circuit

a. Ammeter Positioned to Measure Total Current





4. How do you distinguish metals, metalloids and non-metals in the lab?

the metalloids are the only brittle (non malleable) substances that conduct

the metals are the only conductors that react with acid

the nonmetals are the only ones that don’t conduct.