

Name: _____ Date: _____ Per: _____

L9 – Electrolysis of Water

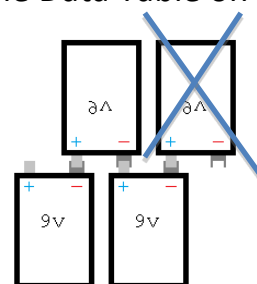
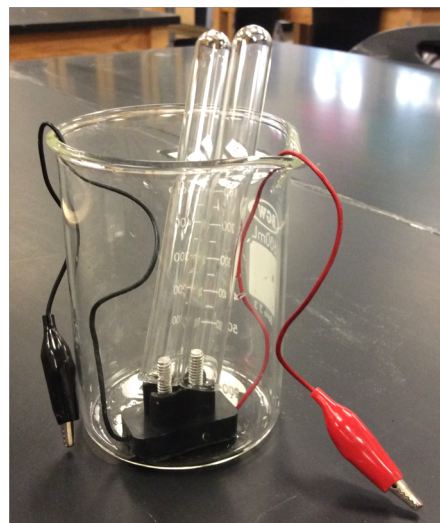
Photo	Description/Observations
Set-up	
During	
After - 1	
After - 2	

Electrolysis Set-up


Period _____, Table _____

Place your initial next to each step as you complete it.

1. Pour 300mL hot tap water into a 500mL beaker.
2. Add 25 grams Epsom Salts (magnesium sulfate) to the beaker. Stir until dissolved.
3. Completely fill a test tube with water. Place 2-inch by 2-inch paper over the mouth of the test tube and tap until secure. Invert the test tube. (It should stay full of water.) Submerge the test tube in the water in the 500 mL beaker. Repeat with 2nd test tube. Rinse your hands.
4. Keeping the open end of the test tube underwater, raise it just enough to remove the paper.
5. Lower the electrode unit into the water. Place the "A" tube over the side of the electrode with the black wire. Place the "B" tube over the other electrode.
6. Attach the exposed ends of the two electrodes leads to different alligator clamps (like extension cords). Note: the other ends of the alligator clamps should not yet be attached to the batteries.
7. Complete the observations in the *Before Electrolysis* column of the Data Table on SN p75.
8. Take a photo (white background) of your set-up. Label it "Electrolysis set-up"
9. Connect the three batteries to each other as shown →
Do not connect to the electrodes yet.
10. Raise your hand so I can check your set-up. _____
11. Connect the red (+) electrode wire to the alligator clip attached to the (+) battery terminal. Connect the black (-) electrode wire to the alligator clip attached to the (-) battery terminal.
12. Allow the experiment to run until one test tube is half full of gas. Take a photo while it is running (this is your "during" photo).
13. Disconnect the batteries from the black electrode extensions. Separate the batteries and place them upright in the plastic beaker.
14. Take a photo (this is your first "after" photo).
15. Lift up the test tube just enough to clear the electrode and place it against the bottom of the beaker. Repeat with other test tube.
16. Remove the electrodes from the beaker. Rinse electrodes in the sink for 30 seconds and place in the 250ml glass beaker.



Removing the test tubes

1. Drop the two rubber stoppers for the test tubes into the beaker of water and let them fall to the bottom.
2. Push one test tube on top of one rubber stopper. Make sure the stopper is secure so the test tube is pulled out and the gas does not escape. Repeat with the second test tube. You may need to use one of the test tubes to turn the stopper upright. 
3. Turn the test tubes right side up. Rinse under cold water. Put them into a test tube rack and take a photo with a white background (this is your second “after” photo).
4. Record observations in the *After Electrolysis* column of the Data Table.

Flame Test - *Two tests will be used; one test will be a burning match, and another will be a glowing match or splint. Make sure everyone in your group has read all of the steps.*

1. Wear safety goggles.
2. Light a match and hold it near the test tube with the most gas.
3. Have a partner pull the stopper out of the test tube and immediately place the lit match above it.
4. Record observations
5. Repeat step 1 near the other test tube. Blow out the match and immediately pull the stopper from the test tube and place the glowing tip of the match in the test tube.
6. Record observations.
7. Place all used matches in the pie pan on the front counter.

Clean-up:

1. Match boxes on front counter.
2. Goggles returned to holder.
3. Rinse all materials that came in contact with the liquid 3x under cold water.
4. Tub neatly arranged – see photo below
5. Wipe your table down with a damp rag.
6. Tubs in numerical order on the back counter.

Arrange your tub as shown in this photo and place it in the center of your table.

– Thank you

