Chemistry 12

Lab: Building an Electrochemical Cell

Name:

Block:

Procedure:

1. Put on safety goggles.
2. Label two beakers and fill them 1/3 full with two of the available metal nitrate/chloride solutions.
3. Obtain a strip of each of the metals you've chosen and place them in the appropriate solution.
4. Prepare a salt bridge: Fill a glass U-tube with KNO_3 solution and plug both ends with a small clump of cotton (rip one into quarters). Carefully invert the tube and place it in the two beakers.
5. Measure the voltage produced. If you do not get a reading at first, try problem solving – switch the leads; check that you're getting full contact with the electrodes etc.
6. Return the solutions back in to the original containers once you have finished with them.
7. Using your same salt bridge, choose another combination of metals and measure the voltage produced. Repeat a total of 4 times
8. The solution for the salt bridge may be discarded down the sink.
9. Throw cotton balls away.
10. Wash your hands and give your partner a compliment

✓ The metals available are:

- Aluminum
- Copper
- Magnesium
- Nickel
- Zinc

✓ The solutions available are:

- $AlCl_3$
- $CuSO_4$
- $Mg(NO_3)_2$
- $NiCl_2$
- $Zn(NO_3)_2$