

## Electrochemical Cell Report - SCH 4C

1. Draw a good diagram of the electrochemical cell in this lab. Use a salt bridge instead of a porous cup. Show labels for:
  - each half cell
  - each electrode
  - each solution (include formula)
  - wire
  - light bulb
  - salt bridge
  - beakers

In addition:

- show each half reaction and indicate the direction the half reaction goes in (place each half reaction under the appropriate beaker).
  - show the ions (eg  $\text{Cu}^{2+}$ ) that exist in each solution
  - show the element symbol for each metal on the electrodes
  - show the movement of electrons around the circuit
  - show the movement of  $\text{NO}_3^{1-}$  ions through the salt bridge.
2. Show a calculation for the voltage you would expect from your cell. Your cell is  $\text{Cu}|\text{Cu}^{2+}||\text{Zn}^{2+}|\text{Zn}$ . You will need the appropriate half reactions for this as well as the potentials for these half reactions
  3. Does the Zn electrode gain or lose mass? Explain with adequate reference to it's half cell reaction.
  4. Does the Cu electrode gain or lose mass? Explain with adequate reference to it's half cell reaction.
  5. Which half cell reaction is an oxidation? Explain.
  6. Which half cell reaction is a reduction? Explain.
  7. What is the purpose of the salt bridge or porous cup?