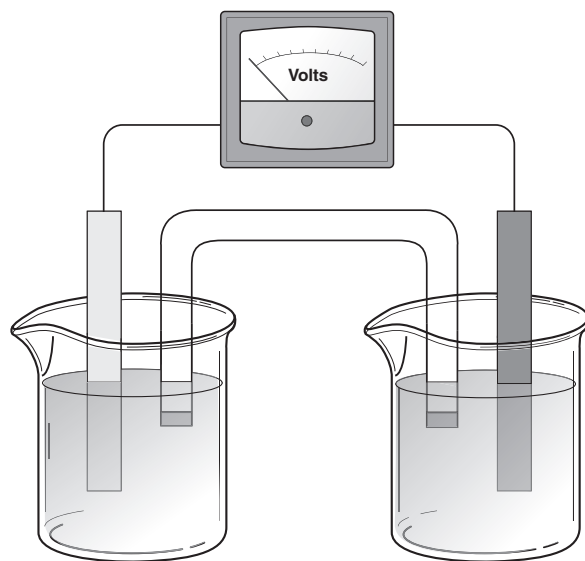


# GALVANIC CELLS

NAME \_\_\_\_\_

SECTION \_\_\_\_\_

1. Go to <http://introchem.chem.okstate.edu/DCICLA/voltaicCell20.html>.<sup>†</sup> Selecting each tab in order, for the right-hand beaker select the metal Zn and the solution  $\text{Zn}(\text{NO}_3)_2$ . For the left beaker, select the metal Cu and the solution  $\text{Cu}(\text{NO}_3)_2$ . Click the On/Off switch on the voltmeter, note the cell voltage, and observe the changes that occur in the electrochemical cell. In the figure below, identify the important components of the cell, i.e., the anode and cathode electrodes, the ions in solution in the anode and cathode compartments, and the salt bridge. In addition, indicate the direction of flow of electrons in the wire, and the direction of flow of ions in the salt bridge, the anode and the cathode compartments.



2. Based on the observed changes in the electrochemical cell, describe the reaction that is occurring at the surface of the anode electrode and the cathode electrode.

<sup>†</sup>If you do not have access to this DCI Web site, your instructor will provide you with the data you will need.

3. Explain why the cations in the salt bridge migrate toward the cathode compartment and why the anions in the salt bridge migrate toward the anode compartment.

4. Write the oxidation–reduction equation and sketch the electrochemical cell using the following electrochemical cell notation.



5. Write the oxidation–reduction equation and sketch the electrochemical cell using the following electrochemical cell notation.

