Tools for ECE  Battery Lab Report

The first lab of Week 4 begins with a “hands on” experiment in ASEC 263. You take notes in the prior Thursday lecture on the basic mechanisms of simple batteries. In 263, you collect data on several metals in a salt and copper sulfate solution for a simple chemical battery cell. The data consists of an open circuit voltage \( V \) and closed circuit current \( I \). From these, using Ohm’s law, you can calculate the effective resistance of the solution. Your assignment back in the computer lab is to write a lab report as a Word document. The three values for each combination of metals are to be presented in a Word table in the lab report. Experiment with table styles. In the table, identify each combination and data value with row and column headings.

The lab report is also to contain a sketch (not a computer drawing) of the lab setup. Leave space for the sketch when you print the document. The Thursday lecture gave pointers for drawing straight lines and curves in a sketch. Use breakouts to identify major parts of the setup.

The lab report consists of an appropriate title, your information, and the following sections:

- **Purpose of the experiment** – This is a narrative which explains why the experiment is done. The explanation is to make sense on its own, and therefore requires you to explain the theory or model that the experiment verifies or provides data for.

- **Setup and Procedure** – This section lists the equipment and materials used in the experiment and how these are configured to perform the experiment. The configuration is often conveyed by a picture or diagram. It is also necessary to describe the procedure that is followed.

- **Results** – This is where the measurements and calculation results are reported and commented upon.

- **Conclusion** – This closing section notes the success or failure of the experiment, and otherwise comments on the results as related to the purpose of the experiment.

Lab reports may vary in requirements for headings and styles. Client organizations may have their own prescribed forms or guidelines for them. For Tools labs, use the section headings above and distinguish them by boldface font.