

Laboratory Report Guideline - Electrochemistry

1. **Cover Page** – Title of the Report, Name, Partner's Name, Date, TA Name, Section #. [1 pt each]

2. **Procedure** - Write the procedure you created [7]
reference the lab manual with page numbers [3]

3. Data

part I: table with the metals tested and the cell voltage measured (three unique cells) [6]

part II: table with the volumes of solutions and water used for dilutions, concentrations of diluted solutions, and the cell potentials, and a graph of concentration versus cell potential. [10]

part III: table with the metals tested and the cell voltage measured (three unique cells) [4]

4. Calculations

part I: table with the reduction half-reactions (identify the anode and the cathode), the literature reduction potentials, the experimental reduction potentials, and the percent differences [15]

part I: show calculations for the experimental reduction potentials (total of three calculations) [9]
- show an example of the calculation for a percent difference for each value

part II: use the Nernst equation to calculate the expected cell potentials for this part of the lab [4]

5. Data Analysis

part I compare the experimental reduction potentials with standard reduction potentials and discuss the results [4]

part II discuss the results for the concentration changes - are the results as you expected?? [4]

part III compare the results with part I - any differences? [4]

6. Conclusion

give an overall conclusion of the experiment [5]

answer the question for part II (pg 41): try to determine whether the cell voltage varies in some regular way with concentration. For example, is the variation linear? That is, does a tenfold decrease in concentration lower the cell voltage to one tenth of its previous value? Is it logarithmic? Is it exponential? [5]

7. Reference [7]

8. **Blue sheet** - neatly written [7]

Reminder: be sure not to use pronouns and make sure all your graphs, data and calculations have appropriate units, significant figures, and axis label.