

Name _____ Section _____

Partner _____

CHM 112 Electrochemistry Report Form

For each set of electrodes, fill in the table below. Write the balanced reaction that occurs. You will have each balanced reaction listed more than once. If the anodes are connected correctly to measure the spontaneous reaction, write “Y”, otherwise write “N” in the “Spontaneous” column.

Black Lead	Red Lead	E_{cell} (obs)	Balanced equation	Spontaneous
Al(0.1)	Zn(0.1)			
Al(0.1)	Cu(0.1)			
Zn(0.1)	Al(0.1)			
Zn(0.1)	Cu(0.1)			
Cu(0.1)	Al(0.1)			
Cu(0.1)	Zn(0.1)			
Cu(0.1)	Cu(0.01)			
Cu(0.1)	Cu(0.001)			
Cu(0.01)	Cu(0.1)			
Cu(0.01)	Cu(0.001)			
Cu(0.001)	Cu(0.1)			
Cu(0.001)	Cu(0.01)			

For each spontaneous reaction listed above, calculate E°_{cell} from the standard reduction potentials. Then calculate Q and use the Nernst equation to predict the cell potential $E_{\text{cell}}(\text{calc})$.

Black Lead	Red Lead	E°_{cell}	Q	$E_{\text{cell}}(\text{obs})$	$E_{\text{cell}}(\text{calc})$

Which half-cell combinations gave similar results for measured and calculated cell potentials? Why might the other cells have exhibited larger discrepancies between the expected and observed potentials?