**Name: Period: Seat#:**

**Worksheet #1**

**Directions:** Use a reduction potential chart.   
Find and copy the reduction equations for Ag+ 🡪 Ag0 and Pb2+ 🡪 Pb0 and then answer the following questions regarding these equations.

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| Silver reduction equation: | Potential Value:  E° = |
| Lead reduction equation: | Potential Value:  E° = |

|  |  |
| --- | --- |
| 1. Which metal ion has the greater reduction potential? | 1. If these two metals (and their solutions) were used to create a galvanic cell, which metal would be the anode? |
| 1. Write the reaction at the anode: | 1. Write the reaction at the cathode: |
| 1. What is the overall reaction? | 1. What would be the voltage of the standard electrochemical cell? |
| 1. How many moles of electrons are involved in this reaction? n = | 1. Find and copy down the Nernst Equation: |
| 1. If the standard cell is allowed to run until the [Ag+] = 0.50 M, the [Pb2+] = 2.0 M, the cell voltage will be **\_\_\_\_\_\_** (greater / less)? Justify your answer by comparing K and Q and explaining what that shows you. | |
| 1. Use the Nernst equation to calculate the cell voltage with these new concentrations Did the cell voltage change in the direction you predicted in #9 ? | |