AP Chemistry Lab
Electrochemical Series

Pre-Lab Questions

1) What is a net ionic equation?

2) What is a spectator ion?

3) What is the difference between Cu and Cu^{2+}?

4) If you have a positive ion in solution do you also have to have a negative ion with it?

5) What is the difference between a halogen and a halide?

Procedure

Set up a 4 x 4 analysis matrix in the 24 Well microscale plate by placing 1 mL (~15 - 20 drops) of each of the nitrate solutions according to the data table. Add a single piece of each of the metals to the appropriate wells as shown on the data tables.

	Cu^{2+}	**Pb^{2+}**	**Zn^{2+}**	**Mg^{2+}**
Cu	X			
Pb		X		
Zn			X	
Mg				X

Allow the plate to stand at least 5 minutes. Determine if a reaction has occurred in the wells by looking for a chemical deposit on the metal or a precipitate in the bottom of the well.

Post Lab Questions

1) What is an activity series?

2) Write balanced net ionic equations for all reactions that occurred with the metals. Do not write equations for reactions that didn't happen. (Six reactions total)

3) List the metals in decreasing ease of oxidation (activity series) and compare to an activity series found in your textbook. Are you in agreement with it?

4) For each of the six reactions that happened identify the species that was oxidized and the species that was reduced.

5) For each of the six reactions that happened identify the oxidizing agent and the reducing agent.