Name: _____ Date: _____

Identifying Metals

Objective: Using reactions and reference material, identify given samples of various unknown metals.

Materials:

aqueous solutions of:	sodium chloride	copper(II) nitrate	
	iron(III) nitrate	zinc nitrate	
	aluminum sulfate	lead(II) nitrate	
The unknown metals are:	tin	calcium	lead
	zinc	copper	magnesium
	manganese		

Equipment:

spot plates	dropper pipets	beakers

Procedure:
You may perform any reaction with your unknown metal and the compounds given above to determine the identity of your unknowns. All reactions should be performed in the spot plate. Be sure to cover the metal sample with the necessary solution. Patience is needed for many of these reactions! Excess unreacted metal can be reused. Solutions outside of copper(II) nitrate and lead(II) nitrate can be disposed in the sink at the conclusion of the experiment.

Results:
Describe qualitatively what you observed in each reaction. (online)

Analysis:
Write reaction equations for each reaction performed – include "No Reaction." (handwritten submission).

Conclusion:
Identify your unknowns (online)
Explain your rationale. (handwritten submission)