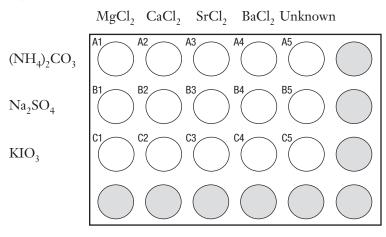


Laboratory Report

Activity of Metals

		Calcium	Magnesium	Aluminum
Reaction with H ₂ O	Observations			
	Litmus test			
Reaction with HCl	Observations			
	Match test			

Solubility of Alkaline Earth Compounds



- 1. Which Group 2 metal, magnesium or calcium, is more active? Cite your evidence.
- 2. Which period 3 metal, magnesium or aluminum, is more active? Cite your evidence.
- 3. Rank the three metals tested in Part A from most active to least active.
- 4. Write a general statement describing the periodic trend in metal activity within a group (vertical column) of the periodic table.

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- 5. Write a general statement that describes the periodic trend in metal activity within a period (horizontal row) of the periodic table.
- 6. Locate the following metals on the periodic table: **magnesium**, **potassium**, and **sodium**. Based on your answers to Questions 4 and 5, rank these metals in order of their expected activity, from most active to least active.
- 7. Litmus paper changes color in acidic (red) and basic (blue) solutions. The word alkaline is a synonym for basic. Give two reasons why the Group 2 metals are called **alkaline earth** metals.
- 8. Which alkaline earth metal formed the most precipitates? The fewest?
- 9. Write a general statement describing the periodic trend in the solubility of alkaline earth metal compounds.
- 10. Use the solubility pattern observed for the known and unknown alkaline earth compounds to deduce the identity of the unknown alkaline earth ion. Explain your reasoning.
- 11. Using Equation 1 in the *Background* section as an example, write a chemical equation for each precipitate-forming reaction that was observed for **strontium**. Include the abbreviations (aq) and (s) to show what compound is responsible for the precipitate in each case.