

LAB 4 – ELEMENT FAMILIES

Question and Hypothesis: Do elements in the same family have similar properties? Elements in the same family will have similar properties.

Procedure: (Completed as demo by teacher)

1. Fill four beakers with water and add one drop of phenolphthalein to each beaker.
2. To beaker 1 add a small sample of Li. Observe reaction. Record observation.
3. To beaker 2 add a small sample of Na. Observe reaction. Record observation.
4. To beaker 3 add a small sample of Cu. Observe reaction. Record observation.
5. To beaker 4 add a small sample of Ag. Observe reaction. Record observation.
6. Clean-up.

Data:

Metal	Observation when metal dropped into water + phenolphthalein
Lithium (Li)	<i>Turns the water pink, bubbles, gas is released</i>
Sodium (Na)	<i>Turns the water pink, bubbles, gas is released</i>
Copper (Cu)	<i>No reaction</i>
Silver (Ag)	<i>No reaction</i>

Analysis:

1. Are the reactions of lithium and sodium the same or different? Why or why not?
Yes, they are in the same family (group I).
2. Are the reactions of copper and silver the same or different? Why or why not?
Yes, they are in the same family (group II).
3. Are the reactions of lithium and copper the same or different? Why or why not?
No, they are in different families.
4. Are the reactions of sodium and silver the same or different? Why or why not?
No, they are in different families.

Conclusion: Elements in the same family or group have similar reactivity.