

SCH3AO

Reactions in Solution Worksheet

1. Write the correct formula for the compound formed when the following ions combine. (Hint: use zero sum rule or criss cross)

- a) Na^+ and Br^- b) Ca^{2+} and OH^- c) NH_4^+ and NO_3^- d) Fe^{3+} and SO_4^{2-}

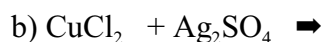
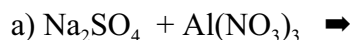
2. Name each compound in question 1.

3. Write the dissolving equations for:

- a) K_2S b) $\text{Sr}(\text{C}_2\text{H}_3\text{O}_2)_2$ c) $\text{Ni}(\text{ClO}_3)_2$ d) Na_3PO_4 e) $\text{Al}(\text{NO}_3)_3$

4. Use the solubility table to determine if each compound in question 1 is soluble or insoluble.

5. For the following, i) complete and balance the equation;
ii) write the ionic and net ionic equations;



6. A flame test was used to determine which ion is present in each of the following unknown solutions. Use your text book (p 330) to identify the ion present:

	<u>Unknown Solution</u>	<u>Flame Test Results</u>
a)	Na^+ or Sr^{2+}	red
b)	Cu^{2+} or Li^+	green
c)	K^+ or Ca^{2+}	violet
d)	Ba^{2+} or Na^+	yellow

7. Which ions are present in the following unknown solutions:

	<u>Unknown Solution</u>	<u>Test Solution</u>	<u>Results</u>
a)	Ag^+ or Mg^{2+}	HCl	ppt
b)	Cr^{3+} or K^+	$(\text{NH}_4)_2\text{CO}_3$	no ppt
c)	Fe^{2+} or Sr^{2+}	NH_4OH	ppt
d)	Pb^{2+} or Mn^{2+}	HCl	no ppt

8. Design a qualitative analysis scheme to determine which ions are present in a solution which may contain Ag^+ , Mg^{2+} , and/or K^+ in any combination. (Use the test solutions characteristic of qualitative analysis and flame tests.)