Precipitate Lab

Precipitate: A solid produced during a chemical reaction in an aqueous solution.

This lab is designed to provide considerable practice in correctly writing and naming ionic compounds. Using small-scale chemistry, various aqueous solutions will be mixed to determine whether a chemical reaction has taken place. If so, the resulting precipitate will be named and its chemical formula written.

> Note: To help identify the precipitates that form, solutions of sodium will be mixed with solutions of nitrate as neither of these ions will react to form a precipitate. Ions such as these are referred to as "spectator ions."

Purpose: To practice writing and naming ionic compounds.

Procedures:

1. Place a transparency over the solutions grid provided

2. To the first row, add 2-3 drops of solution A to each square.

3. To the first square, add 2-3 drop of solution #1.

4. Write an ionic equation for the ions that are being mixed.

Example:

Ag^+ + PO_4^{3-} --->		

5. If nothing happens, write "no rxn" (no reaction) and move on to the next solution.

Example:

Ag^+ + PO_4^{3-} ---> no rxn	(Leave Blank)	(Leave Blank)

If a chemical reaction does take place, describe the resulting precipitate.

Example:

Ag^+ + PO_4^{3-} --->		yellow ppt.

6. For those ions that reacted, finish the chemical equation by writing the correct chemical formula for the resulting ionic compound and name it.

Example:

Ag^+ + PO_4^{3-} ---> Ag_3PO_4	silver phosphate	yellow ppt.

Raise your hand for a stamp after reactions #9 and #18 to verify that you are correctly writing your formulas and names.

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			1 Na$_3$PO$_4$ PO$_4^{3-}$	2 Na$_2$SO$_4$ SO$_4^{2-}$	3 Na$_2$CO$_3$ CO$_3^{2-}$	4 NaOH OH$^-$	5 NaHCO$_3$ HCO$_3^-$	6 NaCl Cl$^-$	7 NaBr Br$^-$	8 Na$_2$SO$_3$ SO$_3^{2-}$
A	AgNO$_3$	Ag$^+$	1	2	3	4	5	6	7	8
B	Cu(NO$_3$)$_2$	Cu^{2+}	9	10	11	12	13	14	15	16
C	Ca(NO$_3$)$_2$	Ca^{2+}	17	18	19	20	21	22	23	24
D	Co(NO$_3$)$_2$	Co^{2+}	25	26	27	28	29	30	31	32
E	Ba(NO$_3$)$_2$	Ba^{2+}	33	34	35	36	37	38	39	40
F	Fe(NO$_3$)$_3$	Fe^{3+}	41	42	43	44	45	46	47	48
G	Ni(NO$_3$)$_2$	Ni^{2+}	49	50	51	52	53	54	55	56
H	Pb(NO$_3$)$_2$	Pb^{2+}	57	58	59	60	61	62	63	64