

Net Ionic Equations and Precipitation Reactions

Name - _____

1. Use a **Table of Solubilities** to predict whether or not the following compounds are soluble in water.

Compound	Soluble (yes or no)
CaI ₂	yes
MgSO ₄	yes
AlPO ₄	no
Pb(NO ₃) ₂	yes
Ag ₂ SO ₄	no
Ca(OH) ₂	no

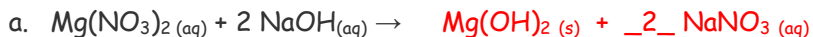
2. Write formulas for the following compounds, and using a Table of Solubilities predict whether or not the compound is soluble in water.

	Formula	Soluble (y/n)
a. potassium phosphate	K ₃ PO ₄	yes
b. calcium carbonate	CaCO ₃	No
c. copper(II) bromide	CuBr ₂	Yes
d. aluminium sulphide	Al ₂ S ₃	No

3. For each of the following reactions, predict the products of the reaction. Be sure to write **balanced equations**.

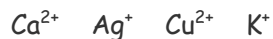
Then determine if any of the products forms a precipitate.

- If no precipitate forms, write **NR** (for "No Reaction").
- If a precipitate forms, write the **net ionic equation** for the reaction.

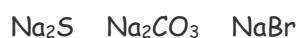


4. An aqueous solution contains a mixture of Ba^{2+} , Pb^{2+} and Ca^{2+} . Select the **ONE** negative ion listed below which could be used to separate Pb^{2+} from the other two positive ions in the mixture.
- a. NO_3^-
 - b. S^{2-}**
 - c. OH^-
 - d. PO_4^{3-}
 - e. SO_4^{2-}

5. An aqueous solution containing the following cations:



In order to separate them, the following solutions are available:



If we wish to separate the cations by causing only one cation to precipitate out of solution as a time:

- in what order should the solutions Na_2S , Na_2CO_3 , and NaBr be added? **NaBr , Na_2S , Na_2CO_3**
- identify the three precipitates that form after the addition of those solutions.
 AgBr , CuS , CaCO_3
- which one cation will remain in solution? **K^+**