

## Net Ionic Equations Vodcast Notes

Name: \_\_\_\_\_ Pd: \_\_\_\_\_

When using a vodcast to take notes, you must prepare yourself beforehand. This is accomplished by looking at the information given in your book at the beginning of each section: objectives and vocabulary. Each vodcast will take you through the remaining information for the section.

**Essential Questions:** Answer the following questions after completing the vodcast notes.

1. What are aqueous solutions?
2. How are complete ionic and net ionic equation written for chemical reactions in aqueous solutions?
3. How can you predict whether reactions in aqueous solutions will produce a precipitate?

**Section Vocabulary:** List all the vocabulary words found on pg. 299 that you will encounter in this section. Circle any terms that are unfamiliar to you.

**Vodcast:** As you're watching and listening to the vodcast, pause when needed to answer the questions and statements. If you don't understand something, rewind and rewatch it until you understand. If there is something you still don't understand, mark it in your notes and ask your teacher the next day in class.

### Net Ionic Equations Vodcast:

#### Net Ionic Equations

1. Net ionic equations usually take place under what conditions?
2. What type of reaction are net ionic equations usually?
3. What do net ionic equations show?
4. How do we show aqueous (aq) ionic substances in a net ionic equation?
5. What is another name for aqueous ionic substances?
6. How do we show substances that are solid (s), liquid (l) or (g)?
7. What happens to an ionic compound in solution?
8. What do the subscripts tell us?
9. How does  $\text{Na}_2\text{CO}_3$  break into its ions (show all the work)?
10. What is the process called in #9?
11. How does  $\text{Al}_2(\text{SO}_4)_3$  break down into its ions (show all the work)?
12. Do polyatomic ions break into individual elements?
13. When do ionic compounds break into ions?
14. What are the steps for writing net ionic equations:
  - 1) \_\_\_\_\_
    - What is a molecular equation?
  - 2) \_\_\_\_\_
    - What is a complete ionic equation?
    - What do we use to determine if a substance ionizes?
  - 3) \_\_\_\_\_
    - What is the net ionic equation?
    - What are canceled ions called?
    - What do ions need to look like in order to cancel?
15. Solubility rules are listed with the Check for Understanding later in these notes!
16. What does it mean if something is soluble?
17. Exceptions to solubles will be \_\_\_\_\_ and exceptions to insolubles will be \_\_\_\_\_.

18. What do insoluble compounds mean?
19. Combine solutions of sodium carbonate and calcium nitrate. **(Show all the steps and work!)**
20. Why is  $\text{CaCO}_3$  insoluble (a solid)?
21. After writing the molecular equation in step one, don't forget to do what to the equation?
22. What do we call the things we crossed out in step three of the example?
23. Combine solutions of sodium hydroxide and copper (II) sulfate **(Show all the steps and work).**
24. What is the precipitate in the above example?
25. What do subscripts of monoatomic ions become in step 2?
26. What is the net ionic equation for the reaction of sulfuric acid ( $\text{H}_2\text{SO}_4$ ) with a solution of barium hydroxide? **(Show all the steps and work)**
27. In the above example why is the complete ionic equation the same as the net ionic equation?

### Check for Understanding

Write the molecular, complete ionic and net ionic equations for the reaction of zinc chloride and potassium sulfide.

#### Solubility Rules

$\text{NO}_3^-$	All nitrates are soluble	$\text{CO}_3^{2-}$	All carbonates are insoluble except those in group 1 elements and $\text{NH}_4^+$
$\text{Cl}^-$	All chlorides are soluble except $\text{AgCl}$ , $\text{Hg}_2\text{Cl}_2$ , $\text{PbCl}_2$	$\text{OH}^-$	All hydroxides are insoluble except those of group 1 elements, $\text{Sr}(\text{OH})_2$ and $\text{Ba}(\text{OH})_2$ ; $\text{Ca}(\text{OH})_2$ is slightly soluble
$\text{SO}_4^{2-}$	Most sulfates are soluble; exceptions include $\text{SrSO}_4$ , $\text{BaSO}_4$ , and $\text{PbSO}_4$ , $\text{CaSO}_4$ is slightly soluble	$\text{S}^{2-}$	All sulfides except those of group 1 and 2 elements and $\text{NH}_4^+$ are insoluble