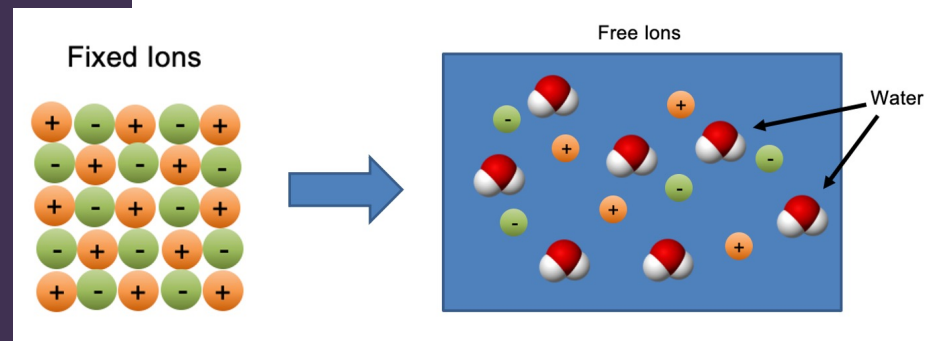
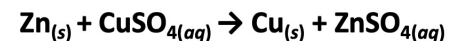


Stoichiometry in Solutions

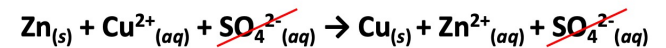
- Ionic compounds in water
- Net Ionic Equations
- Total and Net Ionic Equations
- Rules For Net Ionic Equations
- Stoichiometry
- Practice



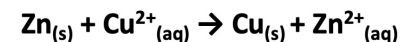
Step 1: Write a balanced chemical equation (check solubility).



Step 2: Write the total ionic equation and remove spectator ions.



Step 3: Write the net ionic equation.



Preview File

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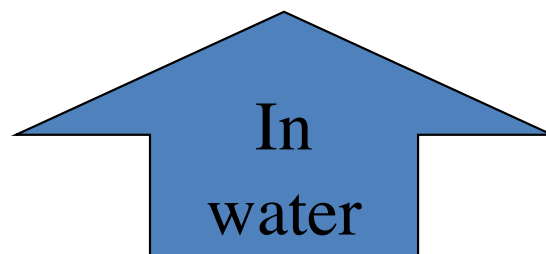
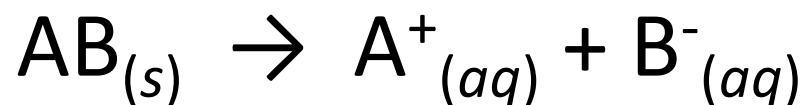
- Some slides appear blank because they have been removed
- Student versions have portions of the text removed which is given in the teacher version and appear as _____ which the students are to fill in
- Other slides may have on them, this represents writing that has been removed on this sample

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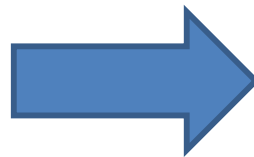
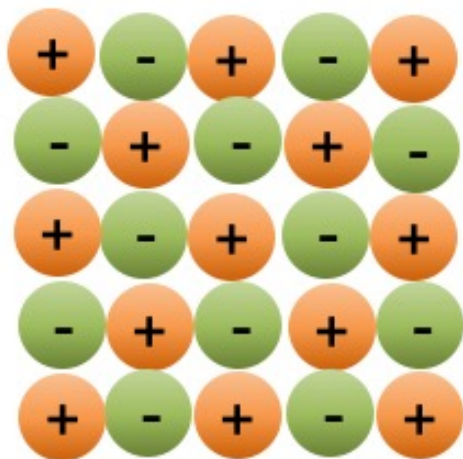


What happens to ionic compounds in water?

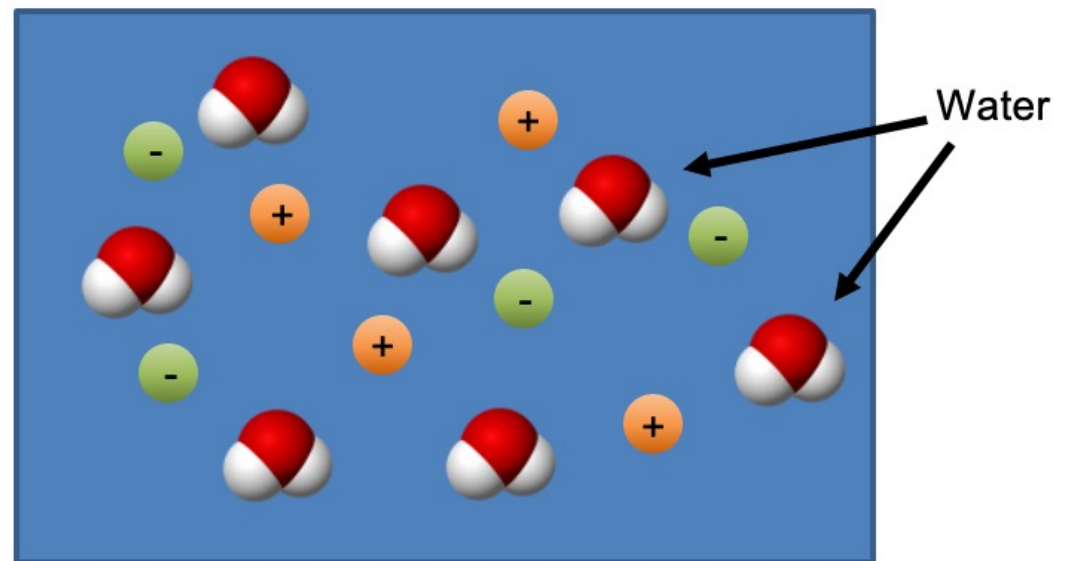
- _____
- We can determine the concentration of each of their ions that we will use in our chemical reactions



Fixed Ions

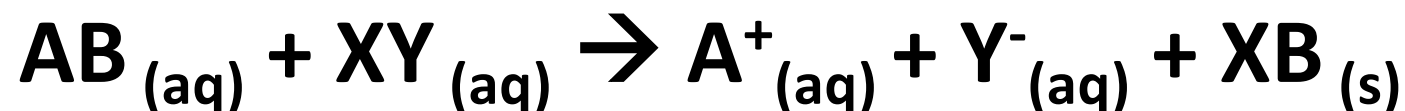


Free Ions



Net Ionic Equations

-



- It is the mixture and interaction of dissolved individual ions that produce the solid

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Rules for Ionic/Net Ionic Equations

1. Soluble salts, strong acids, and strong bases are written in ionic form (they get broken down)
2. Everything else is written in molecular form. This is because these compounds produce relatively few ions in an aqueous solution.
3. _____

Check Your Understanding

Write the net ionic equation for the reaction that occurs when zinc metal is added to copper (II) sulfate solution.

Step 1: Write a balanced chemical equation (check solubility).

Step 2: Write the total ionic equation and remove spectator ions.

Step 3: Write the net ionic equation.

Stoichiometry

- When reactions take place, we can use the concentration of the reactants to theoretically predict the amount of products.
- Just like in the
- These calculations are similar to last unit only this time there is an extra step.
- Often you have to use the molar concentration to determine the moles of the reactants and then solve the question.

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Problem 2: Mercury salts have a number of important uses in industry and in chemical analysis. Because mercury compounds are poisonous, however, the mercury ions must be removed from the wastewater. Suppose that 25.00 mL of 0.085 mol/L aqueous sodium sulfide is added to 56.5 mL of 0.10 mol/L mercury (II) nitrate. What mass of mercury (II) sulfide, $\text{HgS}_{(s)}$, precipitates?

Problem 3: When excess aqueous lead (II) nitrate, $\text{Pb}(\text{NO}_3)_2(aq)$, was added to 125 mL of a solution of sodium iodide, $\text{NaI}(aq)$, a