Chemistry 12

Lab Simulation: Salts & Solubility

Name:

Block:

1. Go to: https://phet.colorado.edu/en/simulation/legacy/soluble-salts
2. Start the simulation by pressing the "play" button.
3. Start with the "Table Salt" tab. What ions make up table salt? _____ and _____
4. The elemental symbol for the ions are: _____ and _____ (Don't forget the proper charges!!)
5. Shake the salt shaker. What do you notice happens to the salt when it hits the water?

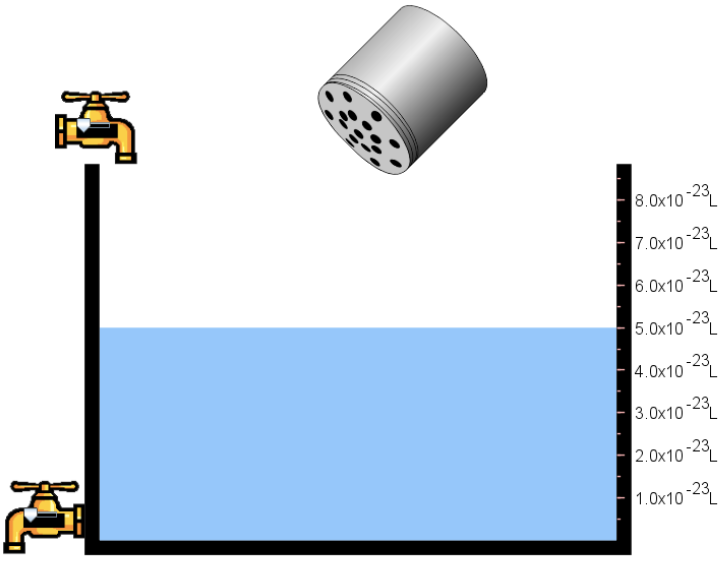
6. Keep shaking the salt shaker until the "Total" for Sodium and Chloride are **over 200** each.
    a. How many "Dissolved" Sodium and Chloride ions are there?

    b. How many "Bound" Sodium and Chloride ions are there?

7. Keep shaking the salt shaker until the "Total" for Sodium and Chloride are **over 300** each.
    a. How many "Dissolved" Sodium and Chloride ions are there?

    b. How many "Bound" Sodium and Chloride ions are there?

8. Sketch a picture of what you see.



9. Move to the "Slightly Soluble Salts" tab.

10. Fill in the following table:

Salt	**Positive Ion (Cation)**	**Negative Ion (Anion)**	**Compound Formula and Ratio of Cations to Anions**	**Maximum Dissolved Cations**	**Maximum Dissolved Anions**	**Ratio of Dissolved Cations to Anions**
Strontium Phosphate			$Sr_{\underline{3}}(PO_4)_{\underline{2}}$ 3:2			
Silver (I) Bromide						
Thallium (I) Sulfide						
Copper (I) Iodide						
Silver (I) Arsenate		AsO^{3-}				
Mercury (II) Bromide						

11. What is the relationship between the compound formula and the ratio of dissolved cations to anions?

12. Which salt is most soluble?

13. Which salt is least soluble?