**FPS – Solutions Notes and Practice**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_\_

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| ***Bellwork*** | |
|  | 1. What do you remember about the difference between homogeneous mixtures and heterogeneous mixtures? |
| 1. Heterogeneous mixtures🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    1. Suspension 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ex:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. Colloid 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ex:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    3. Immiscible 🡪    4. Examples: 2. Homogeneous mixtures🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Examples:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. Solutions are a group of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that are mixed up in a complete \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ distribution. 4. There are two parts in a solution.    1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the substance that is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   Example: salt, sugar, Kool-aid powder   * 1. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the substance that is DOING the dissolving. Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  1. Solubility is the ­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the solvent to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the solute. If liquids can mix and dissolve in one another, they are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.      * 1. soda_canhttp://sub.allaboutcircuits.com/images/03400.pngBoilingWaterWhat factors affect solubility?   http://previews.123rf.com/images/avelkrieg/avelkrieg1402/avelkrieg140200003/25855473-A-pair-of-cartoon-hands-holding-and-stirring-a-drink--Stock-Vector.jpghttps://wafflepantry.com/blog/wp-content/uploads/2015/03/sugarcubes-diy-pearlsugar.jpg | |
| imagesCAQO40N7   1. **“Like dissolves like”**    1. Polar 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. Nonpolar 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. **Concentrations**    1. Dilute 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. https://upload.wikimedia.org/wikipedia/commons/6/67/Orange_juice_1_edit1.jpghttp://www.marthastewart.com/sites/files/marthastewart.com/styles/wmax-1500/public/d34/orange-juice-concentrate-med108462/orange-juice-concentrate-med108462_sq.jpg?itok=ObG6UHWIConcentrated🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. **We can also classify solutions based on amount of solute.**    1. Unsaturated solutions🡪 have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the maximum amount of solute \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in them. (This means more could be added, and the solute would continue to dissolve!)    2. Saturated solutions 🡪 have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ amount of solute in them. No more can be made to dissolve.    3. Supersaturated solutions🡪 have \_\_\_\_\_\_\_\_\_\_\_\_ than the maximum amount of solute in them. This is not possible for all solutions!    4. How do you think we could create a supersaturated solution? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| ***Solubility curves*** | |
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| ***Acids and Bases*** | |
| ***The Chemistry of Acids and Bases*** – Label the following an “acid” or a “base”    http://www.mamabeesfreebies.com/wp-content/uploads/2016/03/windex.jpg   1. **What is an acid?**    1. An \_\_\_\_\_\_\_\_\_\_\_\_\_ is a solution that has an excess of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. It comes from the Latin word *acidus* that means “sharp” or “sour”.    2. The more H+ ions, the more ­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the solution. 2. **Properties of an Acid** a. Tastes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   b. Conduct \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d. Some acids react strongly with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to  produce H2 (hydrogen gas) e. Turns blue litmus paper \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  f. Neutralize with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  g. Strong acids fully \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in water. Weak acids have fewer hydrogen ions in solution.   1. http://www.mhhe.com/physsci/chemistry/chang7/esp/folder_structure/cr/m3/s3/assets/images/crm3s3_1.jpg**Uses of acids**    1. Acetic acid = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ acid (lemons, limes, oranges)    3. Ascorbic Acid = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which your body needs.    4. Sulfuric acid is used in production of fertilizer, steel, paint, and plastics. 2. ***What is a base?***    1. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a solution that has excess \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. Another word for base is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. 3. ***Properties of a base***    1. Feel \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. Taste \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    4. Can conduct \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    5. \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with metals.    6. Turn red litmus paper \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. 4. ***Uses of bases***    1. Bases give \_\_\_\_\_\_\_\_\_\_\_\_\_\_, ammonia, and many other \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ some of their useful properties.    2. The OH-­ions interact strongly with certain substances such as dirt and grease.    3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and over cleaner are examples of bases.    4. Your blood can be slightly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solution. 5. Acids_L107_PHScale_sx6687a3***pH Scale***    1. pH means “potential \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” – measure H+    2. pH is a measure of how \_\_\_\_\_\_\_\_\_\_\_\_\_ or basic a solution is.    3. The pH scale ranges from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.    4. Acidic solutions have pH values \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.    5. A solution with a pH of 0 is very acidic.    6. A solution with a pH of 7 is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.    7. \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has a pH of 7.   Basic solutions have pH values of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | |