**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Chapter 7 Guided Notes: Solutions and Other Mixtures**

***Section I: Solutions and Other Mixtures***

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_: variable combination of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Mixtures: composed of \_\_\_\_\_\_\_\_\_\_\_\_\_ components, \_\_\_\_\_\_ uniform structure of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ throughout**
	+ **Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Types of Heterogeneous mixtures**
		- **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
		- **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
		- **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **\_\_\_\_\_\_\_\_\_\_\_ particles**
	+ **The particles are more or less \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ through a liquid**
	+ **Particles \_\_\_\_\_\_\_\_\_\_\_\_\_ when mixture is allowed to \_\_\_\_\_\_\_\_\_\_**
	+ **Ex: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Suspension made of two liquids**
	+ **Ex: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Two layers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because liquids are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **The heavier (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) liquid settles to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **The lighter liquid can be decanted (\_\_\_\_\_\_\_\_\_\_\_\_\_\_) off**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-sized particles**
	+ **Particles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Colloids and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Because the particles in colloids are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ they pass through ordinary filters and stay \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ throughout the mixture**
	+ **The particles are large enough to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **This scattering of light is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **A \_\_\_\_\_\_\_\_\_\_\_\_\_ in which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ liquids in which one liquid is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Ex: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Practice:**

* **Mayonnaise:**
* **Muddy Water:**
* **Fog:**
* **Marshmallows:**
* **Italian salad dressing:**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mixtures: also called \_\_\_\_\_\_\_\_\_\_\_\_\_ because they have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Plain water is homogeneous because it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is also homogeneous because it is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ mixture of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are homogeneous mixtures made of up \_\_\_\_\_\_\_ particles that do \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Solutions are made up of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ substances that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Ex: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_ liquids mix to form solutions**
	+ **Ex:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Can be separated by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(based on different \_\_\_\_\_\_\_ points)**
* **There are \_\_\_\_\_\_ parts of a solution**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: in a solution the solute is the substance that is \_\_\_\_\_\_\_\_\_\_\_**
	+ **For example, in Koolaid, the solute would be the \_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: in a solution the solvent in the substance that does the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **For example, in Koolaid the solvent is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are not always \_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_ are not always \_\_\_\_\_\_\_\_\_\_\_\_**
* **Other states of matter can form solutions**
	+ **The \_\_\_\_\_\_\_\_you breathe is a mixture of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (gases can be dissolved together)**
* **Two \_\_\_\_\_\_\_\_\_ can be dissolved together to make a solution called an \_\_\_\_\_\_\_\_**
	+ **Ex: \_\_\_\_\_\_\_\_ is a solution of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Practice:**

* **Tea- Solute\_\_\_\_\_\_\_\_\_\_\_\_ solvent\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Carbonated water- solute \_\_\_\_\_\_\_\_\_\_\_\_\_\_ solvent\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Salt water- solute \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solvent\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

***Section II: How Substances Dissolve***

* **\_\_\_\_\_\_\_\_\_\_\_\_: the universal \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Liquids you drink are mostly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Your body is \_\_\_\_\_\_ water**
	+ **The earth is \_\_\_\_\_\_\_\_\_\_\_\_ water**
	+ **Many things can \_\_\_\_\_\_\_\_\_\_ in water, and for this reason it is called the universal solvent**
* **\_\_\_\_\_\_\_\_\_\_\_ of water**
	+ **Remember from ch 5, a \_\_\_\_\_\_\_\_ molecule has an \_\_\_\_\_\_\_\_\_ sharing of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Water is a \_\_\_\_\_\_\_\_\_\_\_\_\_ molecule**
	+ **Polar molecules have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_charged sides**
	+ **Water can dissolve \_\_\_\_\_\_\_\_\_\_\_\_ compounds because it can attract the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of ionic compounds**
* **What if it’s not polar?**
	+ **Non-polar molecules dissolve \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules**
	+ **Non-polar compounds’ electrons are distributed \_\_\_\_\_\_\_\_\_\_\_\_ among the atoms**
* **REMEMBER \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Factors Affecting Dissolving**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a solution helps the \_\_\_\_\_\_\_\_\_ dissolve faster**
		- **Stirring moves dissolve solute \_\_\_\_\_\_\_\_ from undissolved solute and more solvent can reach the undissolved solute**
	+ **Solutes with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ dissolve faster**
		- **Smaller pieces dissolve \_\_\_\_\_\_\_\_\_\_\_\_than larger pieces**
	+ **Solutes dissolve faster when the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
		- **Think of KMT-particles are moving faster, solvent molecules collide with more solute molecules**

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_**

**SOLUTIONS PART II: Concentration & Solubility Notes**

***Section III: Solubility and Concentration***

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_: solute \_\_\_\_\_\_\_\_\_\_\_ to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(oil and water)**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_: solute able to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (sugar and water)**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: the \_\_\_\_\_\_\_\_\_\_\_\_\_ amount of a \_\_\_\_\_\_\_\_\_\_\_\_ that can \_\_\_\_\_\_\_\_\_\_\_\_\_ in a given quantity of \_\_\_\_\_\_\_\_\_\_\_\_\_ at a given \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Why you can’t dissolve all of a solute**
* **Solubility depends on the strength of forces acting between the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ compared to forces between the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules**

***Concentration***

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: only a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ dissolves in \_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: a large amount \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in solvent**
* **These don’t specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **The amount of a particular substance in a given quantity of mixture, solution, or ore**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solution: contains a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solution: contains a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

***Saturation***

* **In solution, there’s only so much \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **When a solvent can \_\_\_\_ longer dissolve any solute, it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the point at which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Ex: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
* **Solution can be:**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Unsaturated Solutions:**

* **Unsaturated solutions are capable of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	+ **Ex: adding sugar to hot tea. \_\_\_\_\_\_\_\_ the sugar is dissolves, so the tea is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Saturated Solutions:**

* **\_\_\_\_\_\_\_\_\_\_\_\_solutions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ any more \_\_\_\_\_\_\_\_\_\_**
	+ **Ex. You add more sugar to your hot tea. Grains of sugar \_\_\_\_\_ to the bottom and are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Supersaturated Solutions:**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_solutions have dissolved \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than normal**
* **Usually supersaturation occurs if the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the solution has been altered**
	+ **Ex. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ your tea, then adding more sugar**

**Molarity**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of a solution**

**Ex #1: How many grams of NaCl are required to make 0.500 L of 0.25 M NaCl**

**Ex #2: Find the molarity of a 0.250 L solution containing 10 g of NaF**

