**Guided Notes**

*(Physical Behavior of Matters Review)*

**Solubility**

1. What mass of solute will dissolve in **100 mL** of water at the following temperatures?
	1. KNO3 at 60°C \_\_\_\_\_\_\_\_\_\_\_\_
	2. NaCl at 90°C \_\_\_\_\_\_\_\_\_\_\_\_
	3. NH4Cl at 70°C \_\_\_\_\_\_\_\_\_\_\_\_
2. Use the solubility curve label the following solutions as saturated or unsaturated. If unsaturated, write how much more solute can be dissolved in the solution.

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| **Solution** | **Saturated or Unsaturated?** | **If unsaturated: How much more solute can dissolve in the solution?**  |
|  a solution that contains 90g of NaNO3 at 40°C (in 100 mL H2O) |  |  |
| a solution that contains 40g of NaCl at 80°C (in 100 mL H2O) |  |  |

**Phase Diagrams**

1. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
2. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
3. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*
4. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**Separation Techniques**

1. Chromatography: Method in which components of a \_\_\_\_\_\_\_\_\_\_\_\_\_ is separated based on how quickly different molecules dissolved in a \_\_\_\_\_\_\_\_\_\_\_\_\_ phase solvent move along a solid phase
2. Filtration: Method for separating an \_\_\_\_\_\_\_\_\_\_\_\_ solid from a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Evaporation: Method used to separating a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (solution) mixture of a soluble solid and a solvent. Involves heating the solution until the \_\_\_\_\_\_\_\_\_\_\_\_\_ evaporates
4. Distillation: Method used to separate a \_\_\_\_\_\_\_\_\_\_\_\_ from a solution. Similar to evaporation but the vapor is collected by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Magnetism: Method used to separate two \_\_\_\_\_\_\_\_\_\_\_\_ with one having \_\_\_\_\_\_\_\_\_\_\_ properties
6. Separating Funnel: Method for separating two \_\_\_\_\_\_\_\_\_\_\_\_\_ liquids (liquids that do not dissolve well)

Miscible: forming a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_solution when added together

Immiscible: do \_\_\_\_\_\_\_\_\_\_ form a homogeneous solution when added together. Do not \_\_\_\_\_\_\_\_\_\_\_\_\_\_ well.

Identify the separation method:

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| **Separation Method** | **Illustration** | **Examples** |
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