**6.P.2.3 –Physical Properties of Matter Study Guide**

**Topics include – solubility, density, melting point, boiling point, freezing point**

**Part 1: Solubility - know the following vocabulary**

*Heterogeneous mixture* - do not appear “the same” throughout. “Least mixed”. Particles are large enough to be seen.

*Homogeneous Mixture* - appear the same throughout, “well mixed”, particles are very small – cannot be seen

*Solution -* a type of homogeneous mixture formed when one substance dissolves in another. “Best mixed” of all mixtures (EX: Kool-aid powder mixed with water)

*Solute -* the substance that is dissolved in a solution (EX: Kool-aid mix)

*Solvent -* the substance that does the dissolving in a solution (EX: water)

*Universal solvent* – Water is one because it can dissolve many substances

*Solubility -* the amount of a solute that can be dissolved in a give amount of solvent

*Soluble -* term that describes a substance that dissolves in another substance

*Insoluble -* a substance that does not dissolve (or very little dissolves) in another substance (EX: spoon)

*Dilute solution -* a solution in which a little amount of solute is dissolved in a large amount of solvent (watered down)

*Concentrated solution -* a solution in which a lot of solute is dissolved in a small amount of solvent (EX: frozen orange juice)

*Saturated solution* – a solution that contains all the solute that can normally be dissolved at a given temperature

*Supersaturated solution* – a solution what contains more solute (dissolved material) than normal

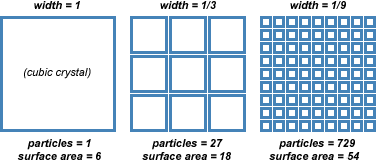
*Unsaturated solution* – a solution that is capable of dissolving more solute (not saturated)

**3 Ways to Speed Up the Rate of Solubility**

1) Rate of stirring

2) Surface area of solute

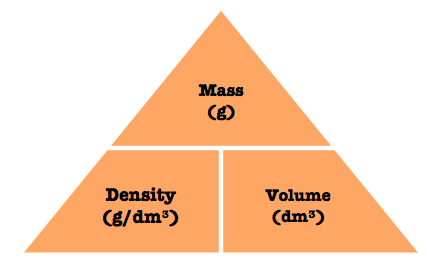
3) Temperature of solvent



**Part 2: Density - know how to solve a problem using the density triangle**

Click on the link for practice problems on density….

<http://www.algebralab.org/practice/practice.aspx?file=word_density.xml>



**Part 3: Melting Point, Freezing Point, Boiling Point**

1) Know the melting/freezing and boiling point of water in degrees Celsius

2) Revisit the phase change graph shown below

