



Thursday 2/28/13

- Please take out your lab book
- Pencil
- Work folder from Blue Bins
- Warm up: in your lab book, write down what you think the difference is between a mixture and a solution



Mixtures and Solution Vocabulary

Types of Mixtures

- **Mixtures** – two or more substances that are not chemically combined with each other and can be separated by physical means.
- The substances in a mixture retain their individual properties. (they don't change chemically)
- **heterogeneous mixture** – “Hetero” means different.
- This mixture consists of visibly different substances or phases. (you can see the individual parts)
- **Homogeneous mixture** – “Homo” means the same
- has the same uniform appearance and composition throughout; maintain one phase (can't see the individual parts)

Examples of Heterogeneous Mixtures



Examples of Homogeneous Mixtures





Friday 3/1/13

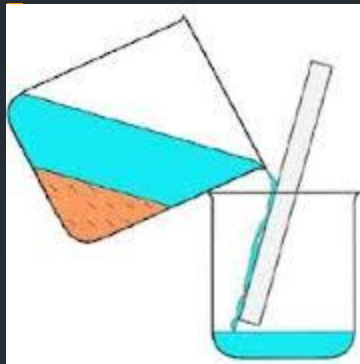
- Please take out your lab book
- Pencil
- If you have any late work, today is the last day to turn it in for credit
- Warm Up: In your lab book, answer the following questions.
 - Describe a heterogeneous mixture and give 2 examples
 - Describe a homogeneous mixture and give 2 examples

Separation of Mixtures

- **Decanting** - pouring liquid from a mixture containing both liquid and insoluble solid (e.g. pouring the water out of a bucket containing a mixture of mud and water)
- **Filtration** - separates soluble from insoluble substances (e.g. using a strainer to separate cooked spaghetti from the boiling water)
- **Evaporation** - heating to evaporate the water from insoluble or soluble particles in the mixture (e.g. collecting salt from seawater by letting the water evaporate)
- **Distillation** - evaporation followed by condensation (e.g. obtaining pure drinking water from seawater)
- **Chromatography** - separates coloured dyes by dissolving the dyes in a solvent and drawing the lighter and heavier particles along a filter paper strip
- **Using a Centrifuge** - uses spinning to separate lighter and heavier particles (e.g. separating the lighter liquid plasma from the heavier blood cells in blood)
- **Using a Magnet** - attracts substances containing iron, nickel and cobalt

Separation of Mixtures

Decanting



Filtration

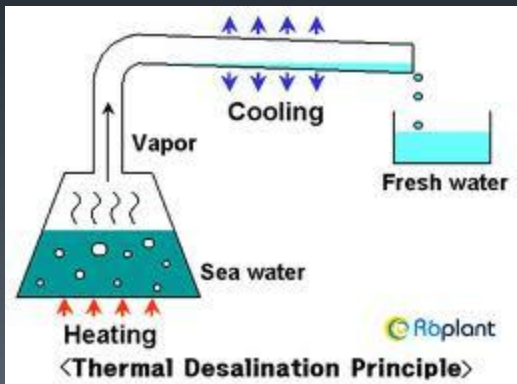


Evaporation



Chromatography

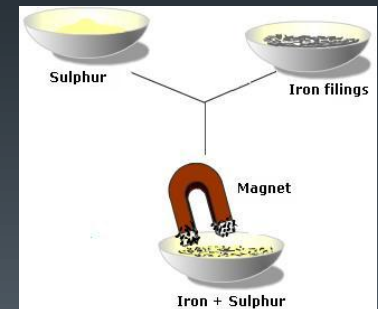
Distillation



Centrifuge



Magnet



Solubility Terms

- **Solute** –In a solution, the substance that is dissolved. (example: salt being dissolved in water)
- **Solvent** - The substance that does the dissolving. (in the salt water example, water is the solvent)
- **Solubility** - Solubility is the ability of a substance to dissolve. Solids such as salt are more soluble in hot water than in cold water. However, gases such as oxygen and carbon dioxide are more soluble in cold water than in hot water.
- **Dilute** - A dilute solution is a type of solution where a small amount of solute dissolves in a large amount of solvent (e.g. a cup of instant coffee with little coffee and a lot of hot water)
- **Concentrated** - A concentrated solution is a type of solution where a large amount of solute dissolves in a small amount of solvent (e.g. a cup of instant coffee with a lot of coffee and very little hot water)
- **Saturated** - A saturated solution is a type of solution where so much solute has been added to the solvent, that no more can dissolve. This type of solution is needed to grow crystals.

Examples of Solutions

- Saturated solution



- Dilute



- Solute and Solvent



- Solubility



- Concentrated

