I ELEMENTS:

A. Elements, the Simplest Substances:

1. An element is a _____ substance.
2. It cannot be _____ into simpler substances by _____ or _____ means.
3. Each element contains only one type of _____.
4. These particles are called _____.

B. Properties of Elements:

1. Each element has its own characteristic _____.
2. These properties do not depend on the _____ of the element present.
3. Examples of characteristic properties:

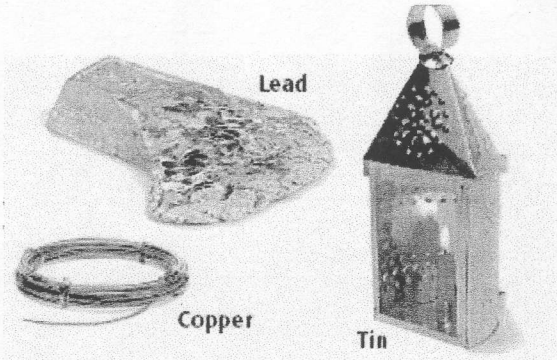
_____ _____

_____ _____

_____ _____

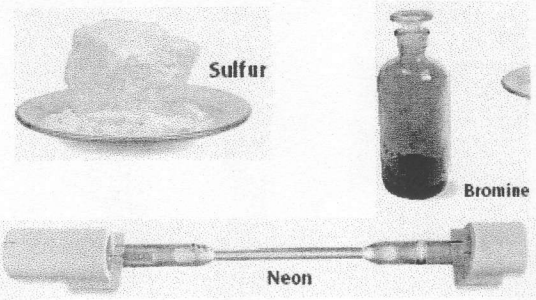
C. Classifying Elements by Their Properties:

1. Elements are _____ into categories by the _____ they share.
2. There are three major categories of elements:
   a. Metals…that are:
      * _____
      * _____
      * _____
      * _____



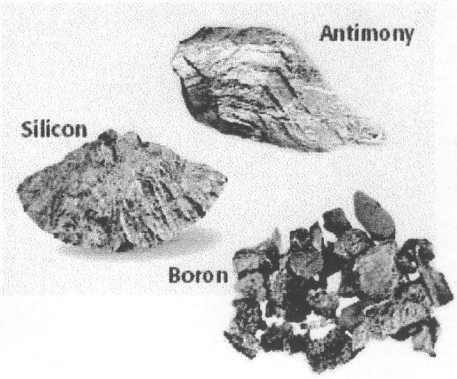
b. Nonmetals….that are:

* _____
* _____
* _____
* _____



c. Metalloids…

* have properties of both _____&_____
* also called _____
* some are _____ or _____
* somewhat _____ and _____



II COMPOUNDS:

A. Compounds: Made of Elements:

1. A compound is a substance composed of _____or _____ elements that are _____ combined.
2. Elements must join in a specific _____ .
3. H_2O = _____ CO_2= _____
4. The smallest part of a compound is called a _____.

C. Properties of Compounds:

1. Each compound has its own _____&_____properties.
2. Properties of a compound are _____from the properties of the elements in the compound.

3. For example: water is made of _____ & _____ which as separate elements are in the _____ form.

D. Breaking Down Compounds:

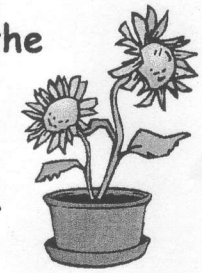
1. Compounds can be broken down into their _____ or into simpler _____ *ONLY* by _____ changes.

2. Adding energy, in the form of _____ can break down _____into _____&_____.

3. Adding energy, in the form of _____ can break down mercury oxide into _____ & _____.

E. Compounds in Your World:

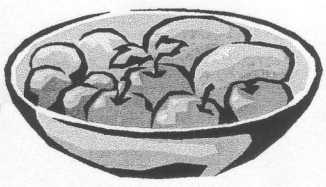
1. Aluminum Oxide in nature provides us with _____.
2. _____ is used to make fertilizers. It is made by combining _____ and _____.
4. _____ _____is used by plants in the process of _____. The plants can make_____ which are carbon compounds.



III MIXTURES:

A. Properties of Mixtures:

1. A mixture is a _____of 2 or more substances that are _____ chemically combined.
2. No _____ change happens when a mixture is made.
3. Each substance in the mixture keeps its _____.
4. Examples:



_____-_____

_____-_____

_____-_____

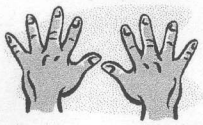
5. You can separate mixtures by _____ means.

6. How can you separate the following?

a. Salt and water: _____

b. Iron & aluminum nails: _____

c. Plasma & red blood cells: _____

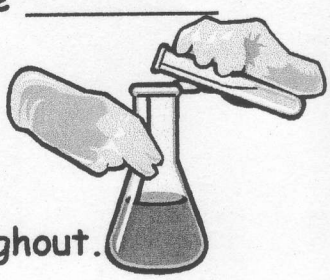


d. Peas & carrots: _____

e. Sand & water: _____

7. The parts of a mixture are _____ in a definite _____

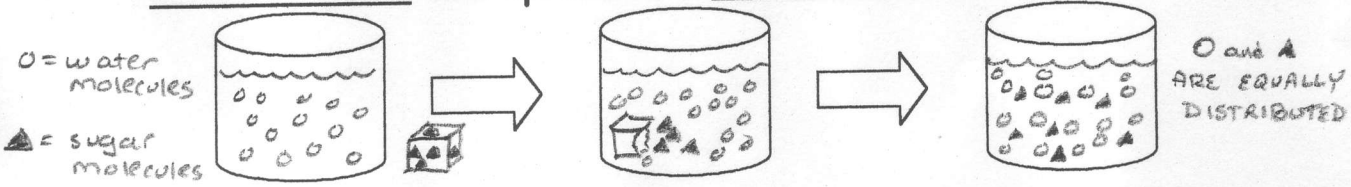
B. SOLUTION: One Type of Mixture:



1. A solution appears to be a _____ substance.

2. Solutions have the _____ appearance throughout.

3. Dissolving: process by which the _____ of a substance _____ and spread out _____throughout the mixture.



4. Solute: _____

5. Solvent: _____

6. Examples: _____ _____ _____

7. Soluble means: _____

8. Insoluble means: _____

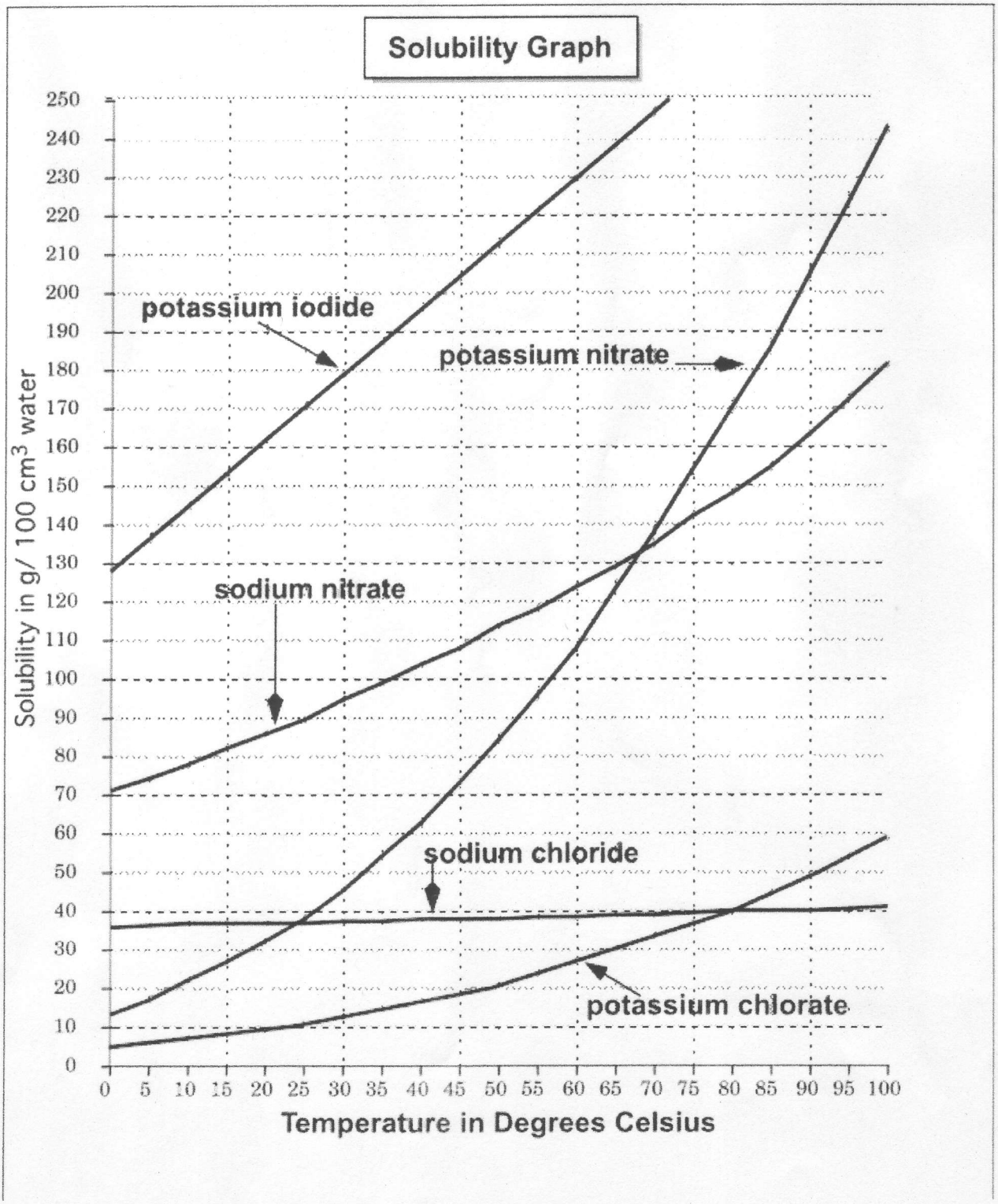
9. Particles in a solution are so small that….

a. they _____ settle out.

b. they don't _____ light, so solutions are _____.

C. Concentration of Solutions:

1. A *concentrated* solution has a _____ of solute in a solvent.
2. A *dilute* solution has a _____ of solute in a solvent.
3. The SOLUBILITY of a solute is the _____ of the solute to dissolve in a _____ at a certain _____.
4. Solubility Graph: (The most common solvent is _____.)

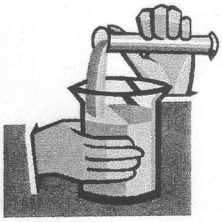


5. Solubility in liquids:

   a. Most _____ are _____soluble at_____temperatures.

   b. But _____ are _____ soluble at _____ temperatures.

   c. Three ways to increase solubility:



   * _____ -_____

   * _____-_____

   * _____-_____

6. A *saturated* solution has the _____ amount of _____ dissolved in the solvent for that _____. If more solute is added, it does _____ dissolve. It will _____to the bottom.

7. A *supersaturated* solution holds _____ solute than the _____ can hold for that temperature. It is made by slowly _____ a _____ solution.

D. SUSPENSION: Another Type of Mixture:

1. When 2 or more substances are mixed but _____ dissolved.
2. Particles are _____ enough so they will _____ out.
3. Examples: _____ _____

E. COLLOID: Another Type of Mixture:

1. When 2 or more substances are mixed but _____ dissolved.
2. Particles are too _____ so they will _____ settle out.
3. Examples: _____ _____
4. Colloids are _____ transparent.