Name: _____ Date: 3-15-19 notes

Aim: I can categorize homogeneous and heterogeneous mixtures. I can explain how a mixture fits into each category.

Do Now: Count how many atoms of each element are in each compound.

1. CH_4

C= 1
H= 4 > 5

2. $3H_2O_2$

H= 6
O= 6 > 12

3. $2NH_3$

N= 2
H= 6 > 8

Mixtures:

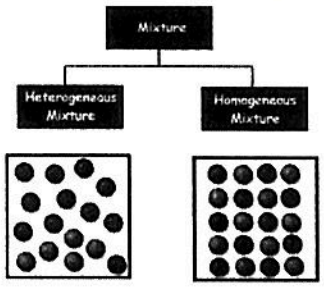
- Made up of 2 or more substances that are in the same place, but their atoms are not chemically bonded. Since these mixtures are just physical blends, they can be Separated easily, by physical means (no chemical reactions required).

Homogeneous Mixtures (Solutions):

- Homogeneous mixtures can also be called Solutions (aq), and if something is a solution, it must be a homogeneous mixture.
- One phase with uniform properties throughout, having even mixtures of each component.
  Examples: Salt water, lemonade, tea, bronze

Heterogeneous Mixtures:

- Have parts that are noticeably different because they are in different phases, shapes and sizes.
- Uneven or non uniform composition.
  Examples: granite, blood, Chicken Soup



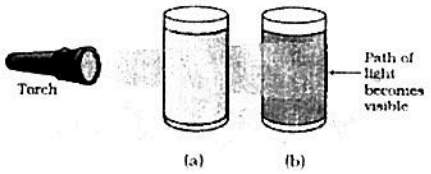
Types of Heterogeneous Mixtures:

1. **Colloid:**
   - Heterogeneous mixture of medium-sized particles which do not settle.
   - Examples: milk and fog

2. **Suspensions:**
   - Heterogeneous mixture containing LARGE particles that settle over time.
   - Examples: muddy water, Italian salad dressing, juices with pulp

Tyndall Effect:

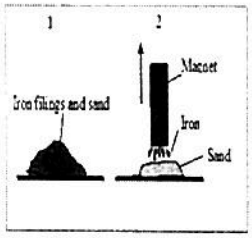
- The scattering of light by the particles of a mixture.

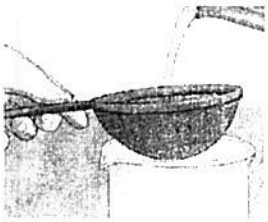


	Solution	Colloid	Suspension
Particle Size	Tiny	Medium	Large
Settle over time?	No	No	Yes
Separate by filtering?	No	No	Yes
Scatter Light?	No	Yes	Yes
Examples	Air, salt water	Fog, milk	Muddy water, Italian Dressing

Separating Mixtures:

1. Sorting
2. Magnetism
3. Filtration
4. Sifting or sieving
5. Extraction and evaporation
6. Chromatography





Mixture

Separated