Name: _____

Period: _____

Day 14—Classification of Matter

Physical vs. Chemical Change

Afterward, is it still the same substance?

Examples of physical changes: change of temperature (due to external heat), ripping; cutting.

Yes — Physical Change

No — Chemical Change

Evidence of chemical change: Bubbles; Turns cloudy; Temperature change when mixed; color change; change of smell.

If it can be separated thru physical means we call it a: **Mixtures**

Heterogeneous Mixtures

Different throughout. Two samples might be different. Ex: Chicken soup; Chex mix; Rocky Road ice cream.

Homogenous Mixtures

Same throughout. Any two samples are the same. Ex: Milk; Salt water; Vanilla ice cream

Chemicals

If it cannot be separated physically we call it a:

Elements

Only one type of atom. Cannot be broken down further. Gold (Au); Oxygen (O_2); Anything on the Periodic Table is an Element.

Compounds

When two or more elements are chemically combined. Can be chemically separated into elements. Salt (NaCl); Carbon Dioxide (CO_2); Water (H_2O)

1. Chemical or physical change?

   A. ____ Burning paper.
   B. ____ Melting ice.
   C. ____ Baking soda mixed into vinegar produces bubbles.
   D. ____ Cutting up a piece of paper.
   E. ____ Heating up metal with a flame.
   F. ____ You mix two liquids together and they get colder.
   G. ____ Dissolving sugar into water.
   H. ____ You mix two liquids together and they change color.
   I. ____ Chewing food.
   J. ____ When acids in your stomach break down your food into nutrients your body can absorb.
   K. ____ When enzymes in your saliva pre-digest and soften your food in your mouth before you swallow.
   L. ____ The complete act of digestion (*all of the above*).

2. Salt is put into water. The water is stirred until the salt disappears.
   A. Is this a physical or chemical change?
   B. Could you filter the salt out?
   C. How can you get the salt out of salt water?

3. Element (E), Compound (C), Heterogeneous Mixture (He), or Homogeneous Mixture (Ho)?

   A. ____ Water
   B. ____ A bunch of gold atoms
   C. ____ Sugar water
   D. ____ Lithium and Oxygen combined chemically.
   E. ____ Can be separated physically.
   F. ____ A chocolate chip cookie.
   G. ____ Has only one kind of atom.
   H. ____ Can be separated by sorting.
   I. ____ Needs a chemical to break it up.
   J. ____ Found on the periodic table.
   K. ____ A can of mixed nuts.
   L. ____ An alloy of two metals (can be melted apart).

4. A. What kind of matter is a pizza?
   B. Why?