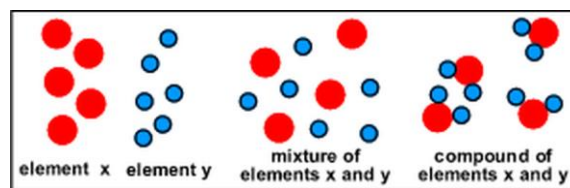
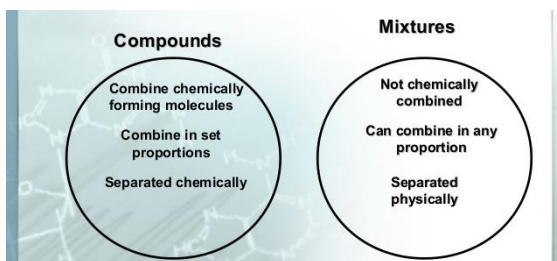


Chemical Matter and Reactions

We know:

That atoms make up matter and atoms can be combined...

Matter can be combined into mixtures and compounds



Changes in Matter

Physical Changes

Chemical Changes

Changes in Matter

Physical Changes

- Changed the shaped
- Molecules are still the same molecules

Chemical Changes

- Changes molecular bonds
- Results in the formation of a new chemical substance.

Chemical or Physical?

- bending a toothpick
- burning a match
- rusting iron
- making a cake from scratch
- chopping wood
- making instant coffee
- melting ice to water

Typically if one or more occurs...

- **Color changes**
- **Heat content changes**
- **Gas produced**
- **Precipitate forms** - Precipitates are insoluble products

...than we have a chemical reaction

Types of chemical reactions = 5 common ones

- Synthesis
- Decomposition
- Replacement
 - Single – displacement
 - Double – displacement
- Combustion

Synthesis: multiple reactants combine to form a single product



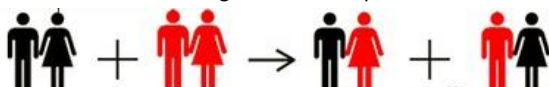
Decomposition: separation of a compound into elements or simpler compounds



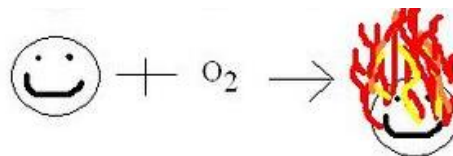
Single Displacement: one element replaces another element in a compound



Double Displacement: one element swap places with another element forming two new compounds



Combustion: Oxygen is added to an element and the element proceeds to light on fire.



Green Chemistry

- <http://www.acs.org/content/acs/en/greenchemistry/students-educators.html>

Naming Chemical Reactions

