PHYSICAL PROPERTIES

A property that can be observed without changing the composition. (Appearance changes, but substance does not)

COLOR

MELTING POINT

BOILING POINT

DENSITY

STATE (SOLID, LIQUID, GAS)

DISSOLVING

CUTTING

BREAKING

TASTE (flavor)

HARDNESS

CHEMICAL PROPERTIES

Any characteristic that gives a substance the ability to undergo a change that results in a new substance

Flammability

Oxidation

Reactivity with Water

PHYSICAL CHANGE

A change that alters the physical properties of a substance but does not alter its composition.

No change occurs in the identity of the substance

Example:

Ice to water to water vapor…They are all water!!!

CHEMICAL CHANGE

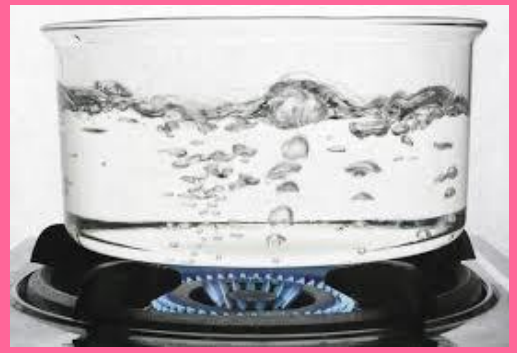
- **A process involving one or more substances changing into a new and different than what it started as**
- Old bonds are broken; new bonds form.

- Examples:
- Fe and O_2 form rust (Fe_2O_3)
- Ag and S form tarnish (Ag_2S)

EVIDENCE OF A PHYSICAL CHANGE

No change in the identity or composition

- Change of state (solid, liquid, gas)
- Melting
- Boiling
- Condensation
- Change in shape (bending, cutting, breaking)



EVIDENCE OF A CHEMICAL CHANGE

- Changes in Chemical properties
- Formation of a gas
- Formation of a solid (precipitate)
- Change in color (clear + clear = differe color)
- Change in temperature (hot or cold)
- Change in smell/taste
- Turns Cloudy

Evidence of Chemical Change Video Medley

1. Cheeseburger in HCl
2. Coke cans in OH & HCl
3. How it's made Aluminum Foil
4. Penny in hot sauce
5. Popping Corn
6. Diet coke and mentos
7. Fry an egg on a sidewalk
8. Food Rotting time lapse
9. Baking a cake
10. Water Evaporation
11. Water, wine, milk, beer
12. Ammonium Chromate Volcano