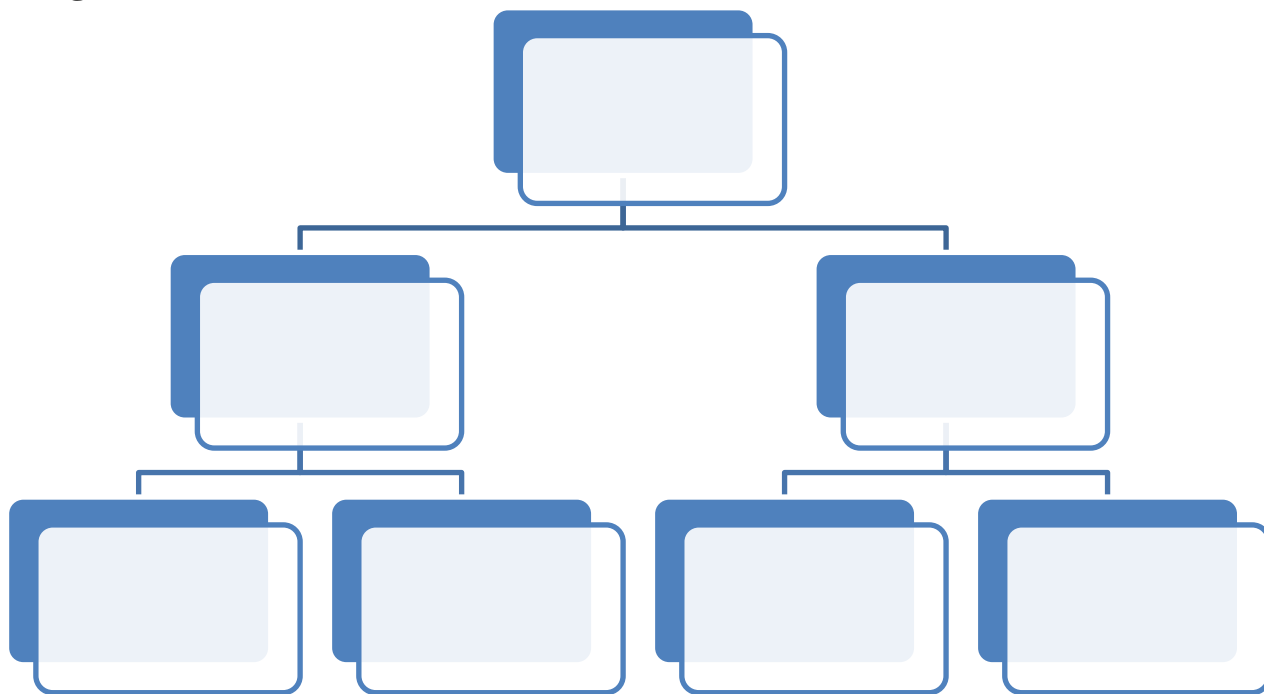


Graphic Organizer

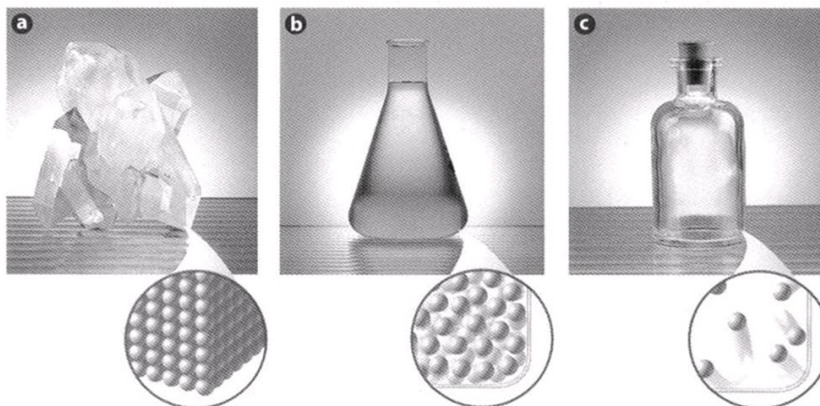


Matter

- Anything that occupies _____ and has _____

- States of Matter

-
-
-



- **Extensive properties** – depend on the _____ of _____ present.

- **Intensive properties** – do not depend on the _____ of _____ present.

Substance

- Matter that has a _____ and _____.
- *Elements and compounds are considered substances!*
- **Examples:**

- **Elements**
 - A substance that _____ be broken down into _____ by _____ means.
 - Individual atoms or _____ of _____ atoms.
 - **Examples:**

- **Compounds**
 - A substance composed of two or more _____.
 - Can be broken down by _____ means.
 - Elements are chemically _____.
 - **Examples:**

Mixture

- A physical _____ of _____ substances.

- **Homogeneous Mixture**
 - A mixture which is _____ throughout.
 - Also called a _____.
 - **Examples:**

- **Heterogeneous Mixture**
 - A mixture which is NOT _____ throughout and usually has more than one _____.
 - **Examples:**

Practice

Identify whether the following examples represent an element, compound, homogeneous or heterogeneous mixture.

- | | | |
|---------------|-------------------------|--|
| • Salt (NaCl) | • Iron | • Aluminum |
| • Salt Water | • Sand & Salt | • Candle Wax |
| • Air | • Sand & Water | • Smoggy Air |
| • Soil | • Raisin Bread | • Copper |
| • Blood | • Brass (copper & zinc) | • Sugar (C ₆ H ₁₂ O ₆) |

Properties of Matter

- **Physical property**
 - A quality that can be observed without changing the _____.
 - **Examples:**
- **Chemical property**
 - The ability of a substance to undergo a specific _____.
 - **Examples:**

Changes

- Substances can be altered by the following changes:
- **Physical change**
 - Will alter a substance _____ changing its _____.
 - Are frequently _____.
 - Physical properties/characteristics like _____, solubility, mass, _____, hardness, _____ point **DO NOT** change!
 - **Key Word Examples:**
- **Chemical change**
 - Will alter a substance by _____ its _____.
 - Are not frequently _____.
 - New substances formed have _____ properties.
 - **Key Word Examples:**
 - **Indicators of Chemical Reactions:**
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.

Practice

Classify each process as being a physical or chemical change.

- | | | |
|---------------|---------------|-------------|
| • Boiling | • Melting | • Rotting |
| • Decomposing | • Evaporating | • Freezing |
| • Dissolving | • Tarnishing | • Digesting |
| • Grinding | • Baking | • Rusting |
| • Fermenting | • Condensing | • Growing |
| | | • Subliming |

Conservation of Mass

- In any _____ or _____ change, _____ can neither be _____ nor _____.
- During any chemical reaction, the _____ of the _____ **is always EQUAL** to the _____ of the reactants.

• Chemical Reactions

- All chemical reactions have _____ (starting materials) and _____ (end result).
- **Format:**
- **Examples:**
 - $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$
 - *Reactants?*
 - *Products?*
 - $2\text{Fe} + 3\text{H}_2\text{O} \rightarrow \text{Fe}_2\text{O}_3 + 3\text{H}_2$
 - *Reactants?*
 - *Products?*
- _____ are used in chemical reactions to describe reactants & products.
 - (s) means the item is a _____.
 - (l) means the item is a _____.
 - (g) means the item is a _____.
 - (aq) means the item is _____, which means _____ in water.