

Classification of Matter

1. A Mixture is a combination of two or more kinds of matter, each of which retains its own properties. The components of a mixture can be separated by some type of physical means. There are two types of mixtures, heterogeneous mixtures and homogeneous mixtures.
 - a. Heterogeneous Mixtures have different compositions and properties throughout the mixture. EX. Salt/Sand and Sand/ Iron Granules.
A heterogeneous mixture has more than 1 phase (a portion of matter with the same properties).
 - b. Homogeneous Mixtures (Solutions) have uniform composition and properties throughout the mixture. EX. Salt Water and Air
2. A Pure Substance is a homogeneous sample of matter that has the same composition and properties no matter its source.
 - a. An Element is a pure substance that cannot be separated into other substances by chemical means. It is made up of only one kind of atom. EX. Carbon and Hydrogen
 - b. A Compound is a pure substance that can be decomposed into two or more simpler substances by chemical means. It is made up of two or more elements that are chemically linked together. EX. Water and Sugar

Periodic Table of Elements

- Elements 1-92 are naturally occurring
- Elements 84-92 are radioactive
- Elements 93-118 are man made and radioactive
- Black elements are solids, blue are liquids, and red are gases

Chemical Symbols to Know

- Sodium – Na
- Potassium – K
- Iron – Fe
- Copper – Cu
- Silver – Ag
- Lead – Pb

Classes of Elements

1. Metals
 - Shiny, Malleable (can be rolled into sheets), Conductors of Electricity, Conductors of Heat
2. Nonmetals
 - Dull, Brittle, Non-Conductors of Heat, Non-Conductors of Electricity
3. Metalloids
 - Semi-Conductors, Borderline elements that have Metallic and Non-Metallic properties