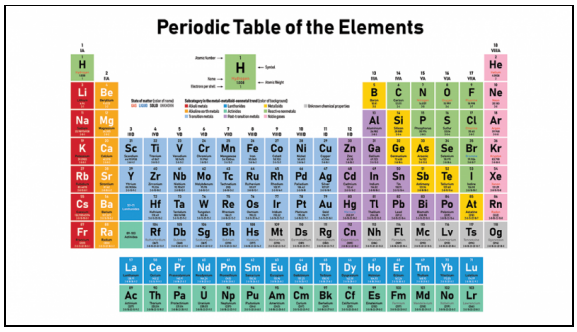
Chemistry



The Periodic Table: A table of the chemical elements arranged in order of atomic number, usually in rows, so that elements with similar atomic structure (and hence similar chemical properties) appear in vertical columns.

Anatomy of the Periodic Table:

- The *atomic number* refers to the number of protons in the nucleus of the element's atoms. (Gallium, for example, has 31 protons.)
- The *atomic mass* increases as the atomic number increases, but unevenly. This is because the number of protons does not always equal the number of neutrons. The listed atomic mass is the average mass for all forms, or isotopes, of each element.
- The number of *neutrons* shown is the number for the most common isotope of the element.
- The number of protons in an element also equals the number of electrons it has.

Subatomic Particles:

- Protons: Positively charged particle in the nucleus of the atom.
- Electrons: Negatively charged particle surrounding the nucleus of the atom.
- Neutrons: Particle in the nucleus that has almost the same mass as a proton but has no charge.

Physical and Chemical Changes:

Physical Change: A change in one or more physical properties(appearance, texture, color, melting point, boiling point, etc) without any change in chemical properties. In other words, matter doesn't change into a different substance in a physical change.

Examples: Cutting paper, painting a wall, and melting an ice cube.

Chemical Change: Occurs whenever matter changes into an entirely different substance with different chemical properties. A chemical change is also called a chemical reaction.

Examples: Release of bubbles, rusting pipes, and production of odor.