

LECTURE # 4 : MATTER: ITS PROPERTIES, CHANGES AND COMPOSITION

States of Matter

Matter exists in three familiar states – solid, liquid and gas. The properties and behavior of these states of matter depend mostly on the arrangement of the particles.

Plasma state is considered as the fourth state of matter. It is highly ionized gas that occurs at very high temperature. Examples are flame, lightning and sun.

Properties of Matter

- Physical Properties are those which can be observed and measured without necessarily changing their composition.
Example: odor, size, shape, density, boiling point.
- Chemical Properties can be observed when matter undergoes a chemical change.
Example: flammability, acidity, stability
- Intensive Properties are independent on the amount of material. These are inherent to the substance and remain the same regardless of whether the quantity is small or large.
Example: odor, taste, color, boiling point
- Extensive Properties are dependent on the amount of materials. These vary in or depend on the quantity of material.
Example: mass, height, length

Changes in Matter

- Physical Change occurs when matter changes in shape, size, or state but not in composition.
Ex. Freezing of water into ice
- Chemical Change results when matter undergoes a change in composition. The original substance disappears and one or more substances are formed.
Ex. Spoiled food

