Lesson 13: Matter Key Terms

Chemical and Physical Properties and Changes:

1. **Physical property** – property of a compound that can change without involving a change in chemical composition; examples are the melting point and boiling point.

2. **Chemical property** – any of a chemical's properties that become evident during a chemical reaction; examples are reactivity and flammability.

3. **Physical change** – any change not involving a change in the substance's chemical identity. Includes a change from one state (solid or liquid or gas) to another without a change in chemical composition.

4. **Chemical Change** – any process determined by the atomic and molecular composition and structure of the substances involved.

Classification of Matter:

5. **Element** – a substance composed of atoms having an identical number of protons in each nucleus. Elements cannot be reduced to simpler substances by normal chemical means.

6. **Pure substance** – a sample of matter, either an element or a compound, that consists of only one component with definite physical and chemical properties and a definite composition.

7. **Compound** – a pure, macroscopically homogeneous substance consisting of atoms or ions of two or more different elements in definite proportions that cannot be separated by physical means. A compound usually has properties unlike those of its constituent elements.

8. **Mixture** – a composition of two or more substances that are not chemically combined with each other and are capable of being separated.

9. **Solution** – a homogeneous mixture of two or more substances, which may be solids, liquids, gases, or a combination of these.

10. **Heterogeneous** – consisting of dissimilar parts. Heterogeneous mixtures have distinguishable phases.

11. **Homogeneous** – uniform in structure or composition throughout. Homogeneous mixtures have atoms and molecules interspersed.

12. **Alloy** – a homogeneous mixture or solid solution of two or more metals, the atoms of one replacing or occupying interstitial positions between the atoms of the other: Brass is an alloy of zinc and copper.

13. **Distillation** – the evaporation and subsequent collection of a liquid by condensation as a means of purification.

14. **Density** – the mass per unit volume of a substance. Commonly measured in grams per milliliter (g/mL) or grams per cubic centimeter (g/cm^3).