**Matter**

**Matter** is the “stuff” that all objects and substances are made of.

Matter is anything that has volume and mass.

**Mass** is the amount of matter that something is made up of.

Mass is measured in grams, milligrams or kilograms.

**\* Mass and weight are not the same thing. Weight is a measure of the gravitational**

 **force exerted on an object, usually in relation to the Earth.**

**Volume** is the amount of space taken up by an object.

 Volume of liquids are is measured in milliliters, liters,

The volumes of solids are expressed in cubic centimeters.

Matter is identified by its physical and chemical properties.

A physical property can be observed or measured without changing the identity of the matter.

**Physical properties include:**

 **1. Density**- the amount of matter in a given volume.

 **2. Ductility**- the ability to be pulled into thin strands, like wire.

 **3. Malleability**- the ability to be pressed or pounded into thin sheets.

 **4. Boiling point**- the temperature in which a substance goes from a liquid to a gas

 **5. Melting point**- the temperature in which a substance goes from a solid to a liquid.

 **6. Electrical conductivity**- How well a substance allows electricity to flow through it.

**7. Solubility**- the ability to dissolve in another substance.

**8. State of Matter**- the physical form in which a substance exists. (solid, liquid or gas)

When a substance undergoes a physical change, its identity remains the same.

Chemical Properties - are properties that describe how a substance changes into another new substance.

**Chemical properties include:**

Flammability

The ability to rust or tarnish

Reactivity to acid or water

Color change

A chemical change occurs when one or more substances are changed into new substances with different properties; and cannot be reversed using physical means.

Physical change- a change that affects one or more physical properties of a substance; many physical changes are easy to undo.

***The density of a particular kind of matter is a specific property that helps to distinguish different substances.***

The density of an object is its mass per unit of volume. D= M/V

State of Matter- the physical form in which a substance exists. (solid, liquid or gas)