**Test Date*:\_\_\_\_\_\_\_\_\_\_\_*** ***Name: \_\_\_\_\_\_\_\_\_\_\_***

***Science***

**Unit 3 Study Guide**

**Vocabulary**

Solution—two or more kinds of matter that are mixed evenly together

Mixture—two or more kinds of matter that can be easily separated

Physical Change—when matter can return to its original state; reversible change

Chemical Change—when matter changes into a new substance; irreversible change

Mass—the amount of matter an object has; the “stuff” in an object

Volume—the amount of space an object takes up

Dissolve—to completely and evenly mix one substance into another substance.

Condensation—water changes from a gas to a liquid

Evaporation—water changing from a liquid to a gas

Graduated Cylinder—a tool to measure the volume of a liquid or the volume of a small object in a liquid.

Pan Balance—a tool to measure the mass of objects

Sieve—a tool to separate matter by the physical property of size. The larger items will remain in the basket section and the smaller matter will pass through the holes.

Thermometer—a tool to measure how hot or cold something is

Ruler—a tool to measure the length of an object

Physical Properties—Characteristics that can be observed on an object. (color, size, shape, hardness)

**Facts**

Water boils at 212˚F or 100˚C and is in the gas form. (water vapor)

Water freezes at 32˚F or 0˚C and is in a solid form.

Water between these numbers will remain at the liquid state.

Solution Examples—Gatorade, Lemonade, Saltwater,

Mixtures—Trail Mix, Iron Filings & Sand, Salad

A solution is not made when measuring out ingredients, this only happens when two substances are mixed together evenly.

 Chemical Changes/irreversible:

* Bicycle rusting
* Baking soda and vinegar being mixed together
* Leaves changing colors in the Fall
* Frying an egg
* Roasting a marshmallow
* Baking a cake
* Banana turning brown

 Physical Changes/reversible:

* Making a paper airplane
* Cutting an apple
* Breaking a rock into pieces
* Melting butter
* Slicing bread
* Breaking a window or vase

Short Answer:

Finding the volume of a toy soldier:

 Students can use a graduated cylinder to measure the volume of the object. You can fill the graduated cylinder with 50ML (number can change) of water. Record that data. Then they can drop the toy soldier into the cylinder. Next remeasure the water level. Take the final number (water level) and subtract the original water level. That will give you the volume of the toy soldier (object).

When completing an experiment, why should you record your observations:

* To remember exactly what you saw
* To use the recorded observations to draw conclusions
* To have a record so he can compare his results with the results of his classmates

Comparing Melting & Freezing:

* Melting happens when solid water, or ice changes into liquid water.
* Freezing happens when liquid water changes into solid water, or ice.