Matter Study Guide

Key Terms (Give an example of the bold terms):

1. Matter-anything that has mass and takes up space
2. Chemistry-study of the properties of matter and how matter changes
3. Substance-a kind of matter that is pure and has a specific set of properties
4. Element-a pure substance made of only one kind of atom
5. Atom-smallest particle of an element
6. Chemical bond-the force that holds two atoms together
7. **Molecule**-two or more elements held together by a chemical bond
   1. Oxygen (O2)
   2. Water (H2O)
8. **Compound**-a substance made of two or more different elements held together by chemical bonds
   1. Water (H2O)
   2. Carbon dioxide (CO2)
9. **Mixture**-a combination of two or more substances that are not chemically combined
   1. Soil
   2. Salt water
10. **Heterogeneous mixture**-a mixture that is not uniformly in composition and are not evenly distributed
    1. Salad
    2. Oil and water
11. **Homogeneous mixture**-a mixture in which substances are evenly distributed and uniform
    1. Sugar water
    2. Salt water
12. **Solution** -a homogeneous mixture of two or more substances
    1. Sugar water
    2. Salt water
13. **Physical property**-a characteristic of a pure substance that can be observed without changing it into another substance
    1. Hardness, texture, color, state of matter, luster, conductivity, flexibility, shape, density
14. **Chemical property**-a characteristic of a pure substance that describes its ability to change into different substances
    1. Burning or flammability
    2. Ability to react
15. **Physical change**-a change in a substance that does not involve a change in identity of a substance
    1. Changes in shape, state, or form
16. **Chemical change**-a change that occurs when one or more substances change into an entirely new substances with different properties
    1. Combustion or oxidation
17. Law of conservation of mass-matter is not created or destroyed in any physical or chemical change
18. **Exothermic reaction**-a change in which energy is taken in
    1. Ice melting
19. **Endothermic reaction**-a change in which energy is released
    1. Combustion
20. Mass-amount of matter in a substance
21. Volume-amount of space an object takes up (know how to calculate)
    1. Length x width x height
22. Density-matter per unit volume (know how to calculate)
    1. mass/volume