

CHEMISTRY DAILY PLAN

Class:

Date:

Subject: *Chemical Reactions, Physical and Chemical Changes*

Time:

When we look around, we see some changes. Evaporation of water, rain and snow, melting of ice, boiling of water, rusting iron, dissolving sugar in tea, dissolving salt in water.

There are some changes which occur in the chemical structure of matter, some changes only physical. We can classify the changes as physical change and chemical change.

PHYSICAL CHANGE

When an object changes in size, shape or state, it undergoes a physical change. In physical change, some of the physical properties of matter may change, but its composition doesn't change. A sample of matter changes in its physical condition.

Chemical Changes: Changes in the molecular structure of substances are called **chemical changes**. Chemical Reactions, New substances are formed.

Examples: Dissolving salt in water, dissolving sugar in tea, melting of ice, boiling of water, cutting paper, cutting wood

CHEMICAL CHANGE

The changes in the molecular structure of matter are called chemical changes. In chemical change, the molecular structure of matter change. Some molecules are broken down and some molecules are formed. One or more samples are converted to new samples with different composition.

Physical Changes: No new substances formation.

Examples: Burning sulfur, burning hydrogen, burning natural gas, rusting iron

Example: Classify following changes as physical or chemical

- | | | |
|------------------------------|-------------------------------------|----------------------------|
| • breaking of glass | • rusting iron | • tearing of paper |
| • burning sulfur | • breaking of egg | • photosynthesis of plants |
| • cutting orange into slices | • boiling of water | • combustion of coal |
| • baking a cake | • changing of CO to CO ₂ | • souring of milk |
| • opening an envelope | • freezing of cement | |
| • dissolving salt in water | • boiling of egg | |

Physical change

- little or no energy lost or gained
- original substances remain but size or form may change
- can be used to separate mixtures

Chemical change

- heat, light or some other form of energy lost or gained
- original substances are changed to other substances
- can be used to decompose or form compounds

ENERGY IN PHYSICAL AND CHEMICAL CHANGES

Physical and chemical changes take place by energy transformation.



During chemical or physical changes, heat is taken or given off to the reaction medium.