

Boys' High School and College, Prayagraj

Class: VII

Subject: Chemistry

Book: Chemistry for ICSE Schools Book-7 (Kriti Prakashan Pvt. Ltd)

Chapter 2: Physical and Chemical Changes (CPT-1)

15th April- 15th May, 2020

Explanation of physical change:

Physical changes are usually about physical states of matter. It is a type of change in which the form of matter is altered but one substance is not transformed into another. The size or shape of matter may be changed. They are usually reversible. No energy change takes place.

Explanation of chemical change:

Chemical changes happen on a molecular level when two or molecules interact. It happens when atomic bonds are broken or created during chemical reactions. Most chemical changes are irreversible. Chemical change is generally accompanied with either liberation or absorption of heat.

Common phenomenon observed in nature having physical changes are-

Freezing, melting, vapourisation, condensation, sublimation and dissolution.

Some chemical changes are-

Rusting, burning and curdling.

Exothermic reaction- It is a chemical reaction that releases energy through light or heat.

Endothermic reaction- It is a chemical reaction that is accompanied by the absorption of heat.

Worksheet - I

Note: To be done in the notebook

A. Fill in the blanks with the correct words:

- i. **Change** is a permanent part of our life.
- ii. Usually, a change in **energy** takes place when a chemical change occurs.
- iii. **Non- periodic** changes are not repeated at fixed interval of time.
- iv. Formation of curd from milk is an example of **curdling**.
- v. A chemical reaction in which heat is emitted, is called **exothermic** reaction.

B. Answer the following questions:

- i. Why is digestion of food a chemical change?
Answer: Digestion of food is a chemical change because when food is digested in our body, numerous enzymes take part in the process. Complex food is converted into simplest form with different chemical composition and the change is irreversible.
- ii. Why changing of water to water vapour is considered a physical change?
Answer: Changing of water to water vapour is considered a physical change because when we cool down water vapour we get back water. This change is reversible and temporary, so it is a physical change.
- iii. When you mix cement with water, it is considered irreversible. Why?
Answer- When we mix cement with water it hardens and we cannot get back cement powder again, as it is a permanent change. Hence, it is irreversible.

C. Define the following:

- i. **Melting**- Melting or fusion is liquefaction process in which a solid is converted to liquid after receiving heat.
- ii. **Sublimation**- Sublimation is the process of conversion of a solid directly into gaseous state.
- iii. **Rusting**- Rusting is the process of continues disintegration of iron with respect to time.
- iv. **Endothermic reaction**- A chemical reaction in which heat is absorbed, is called endothermic reaction.
- v. **Undesirable change**- Changes that are not beneficial to us.

Worksheet - II

Note: Exercises to be done in the notebook

A. Match the Following:

Column A

1. Formation of a new substances
2. Change in only physical properties
3. Ripening of fruits
4. Heating of sugar
5. Movement of a clock pendulum

Column B

- a) Irreversible change
- b) Periodic change
- c) Physical change
- d) Desirable change
- e) Chemical change

B. State True or False for the following statement:

- i. Beating of heat is a periodic change.
- ii. Formation of a manure from dung is reversible change.
- iii. Melting of snow is a chemical change.
- iv. Stretching of a rubber band is an irreversible change.
- v. Eruption of volcano is a periodic change.

C. Answer the following questions:

- i. Classify the following change as physical or chemical changes-
 - a) Bursting of cracker
 - b) Glowing of bulb
 - c) Formation of steam
 - d) Burning of candle.
- ii. Why is breaking of glass a physical change, though it is irreversible?
- iii. State four differences between physical and chemical changes with an example of each.

D. Define the following:

- i. Freezing
- ii. Burning
- iii. Vapourisation
- iv. Condensation
- v. Dissolution
