

Exercises

(A). Fill in the blanks:

1. Reversible
2. Irreversible
3. Physical
4. Physical
5. Chemical
6. Chemical
7. Substances

(B). Multiple choice questions:(Ans.)

1. A pond freezes over
2. Mostly reversible
3. Always irreversible
4. Folding a cloth
5. Physical change

(C) State whether the following statements are true or false. (Ans.)

1. True
2. True
3. False
4. False
5. True

(D). Life Skills (Critical thinking, Decision making)

Consider the changes given in the first column of the given table. Identify the type of change and then tick mark in the appropriate box.

Sr No.	Change	Physical	Chemical	Reversible	Irreversible
1	Cutting paper	✓			
2	Burning paper		✓		✓
3	Cooking roties		✓		✓
4	Digestion of Food		✓		✓
5	Warming milk	✓		✓	
6	Changing milk to paneer		✓		✓
7	Curdling of milk		✓		✓
8	Blowing a balloon	✓		✓	
9	Sawing of piece of wood	✓			✓

(E). Answer the following questions in Short.(Ans.)

1. A change in which no new substance is formed. The composition of the substance remains unchanged.
Examples: Boiling of water, Melting of an ice cream.
2. A change in which a new substance is formed which has different properties from the original substance. Examples: Rusting of iron, digestion of food.
3. Examples of Reversible change : Melting of ice, Throwing a ball, Folding a cloth etc.

Examples of Irreversible change: Bursting a balloon, Growth of a plant, Burning of candle etc.

4. Some of the examples of physical change are: throwing a ball, cutting a paper, sharpening a pencil, freezing water, heating iron rod etc.

Some of the examples of chemical change are: burning of paper, rusting of iron, souring of milk, and digestion of food etc.

5. Some examples of irreversible physical change are : tearing a paper, sharpening a pencil, breaking a stick, cutting a paper etc.

6. Five changes which we observe in our day to day life are:

- a. Melting of ice
- b. Boiling of water
- c. Burning of candle
- d. Dissolving sugar and water
- e. Rusting of iron

(F) Answer the following questions in brief. (Ans.)

1. A change in which a new substance is formed & it is different from the original substance.

Example: Burning of paper : When a paper is burnt smoke, carbon dioxide and water vapours are released, and the paper turns into ash. Here ash, water vapour and carbon dioxide are the three new substances formed after burning. This change cannot be reversed because we cannot convert ashes or other substances back to paper. Such a change where the process cannot be reversed is called chemical irreversible change.

2. When a paper is torn the size and the shape of the paper changes, but the molecules on the paper remains the same. Since, no new molecules are formed, tearing paper is a physical change. At the same time we cannot get back the sheet of paper from the pieces. Thus, the physical change is irreversible.

3. Differentiate between physical and chemical changes are:

(a). Physical changes:

1. Most of the physical changes are reversible.
2. They are usually temporary.
3. In physical changes no new substances are formed.
4. Chemical composition of substances does not change in physical changes.

(b). Chemical changes:

1. Most of the chemical changes are irreversible.
2. They are permanent.
3. In chemical changes new substances are formed.
4. Chemical composition of substances changes in chemical changes.

4. Differentiate between reversible and irreversible changes are:

(a). Reversible changes:

1. The changes which can be brought back to its original form are known as reversible changes.
2. It can be easily reversed by changing the conditions.
3. Examples: Folding of cloth, rolling chapati from dough etc.

(b) Irreversible changes:

1. The changes in which the matter cannot be brought back to its original state are known as irreversible changes.
2. It can never be reversed easily.
3. Examples : Burning of paper, cooking the chapati etc.

