

BIJENDRA PUBLIC SCHOOL

Class : 6

Subject : Science

Chapter - 6 Changes Around Us

A. Very short answer questions (Answer in one word)

1. Name the cause that changes temperature of a body.

Ans. Heat

2. Mention one change caused by force pressure.

Ans. Change in shape.

3. Name one irreversible change.

Ans. Digestion of food

4. In dissolution of sugar in water a physical or chemical change?

Ans. Physical change

5. Is the statement "all the physical changes are reversible" correct?

If so, give an example to support your answer.

Ans. Yes, "all physical changes are reversible".

For example - melting of wax, melting of ice

B. Short - Answer Questions.

1. In what ways does a candle change during burning?

Ans. Burning of candle involves both physical and chemical changes.

When the candle burns, the molten wax rises through the cotton wick and undergoes combustion. In this process, the wax melts which is a reversible or physical change and the wick burns which is an irreversible or chemical change.

2. How do stirring and heating affect the dissolution of common salt in water?

Ans. The rate of dissolution of common salt in water increases with stirring and heating. Stirring and heating cause faster dissolution of common salt in water.

3. A potter makes clay pots. These pots are dried and then baked.

Identify the reversible and irreversible changes that take place in the process.

Ans. Reversible changes \longrightarrow Making of pot from clay

Irreversible change \longrightarrow Drying and baking of the pot

4. Why is the ripening of a fruit considered a chemical change?

Ans. Ripening of fruits is considered as a chemical change because we cannot get back the raw fruit from the ripened fruit. The properties of ripened fruits, such as colour, taste and composition are entirely different from those of raw fruits.

5. Mention two characteristics of a chemical change.

Ans. The two characteristics of a chemical change are -

i. New substances with different properties are formed.

ii. Energy may be evolved or absorbed.

C. Long answer type questions.

1. Classify the following changes in as many ways as possible -

- Ans. a. Growth of a tree - Irreversible change, chemical change
b. Burning of paper - Irreversible change, chemical change
c. Weathering of a rock - Irreversible change, chemical change
d. Making ice-cream from milk - Desirable change, Reversible change,
Physical change

2. State two changes which are reversible.

- Ans. i. Folding of filter paper
ii. Stretching of rubber band

3. Name one application of expansion on heating and contraction on cooling.

Ans. Application - Fixing of Iron Rim to the Wooden Wheel of a Cart

The iron rim is made slightly smaller than the wooden wheel. The iron rim is heated due to which it expands and becomes bigger in size. This hot iron rim is then put on the wooden wheel and cooled by pouring water over it. On cooling, the iron rim contracts and fits tightly on to the wooden wheel.

4. Classify the following into physical and chemical changes.

- Ans. a. Melting of wax - Physical change
b. Burning of agarbatti - Chemical change
c. Tearing of cloth - Physical change
d. Cooking of food - Chemical change

5. Write two points of difference between a chemical change and a physical change.

Ans. The difference between a physical change and a chemical change

Physical change -

- i. In a physical change, only the physical properties of a substance get changed and no new substance is formed.
ii. Physical changes are generally reversible. Example - Melting of wax

Chemical change -

- i. In a chemical change a new substance is formed whose composition and chemical properties are entirely different from that of the original substance.
ii. Chemical changes are always irreversible. Example - Rusting of iron

D. Tick (✓) the Odd-One out giving reason.

1. **Formation of biogas from animal dung**, Melting of wax, Drying of wet clothes, Folding of filter paper

Ans. Formation of biogas from animal dung. Others are physical changes.

2. Reversible change, Temporary change, **Permanent change**, Glowing of an electric bulb

Ans. Permanent change - Others refer to reversible or physical changes.

3. Change of milk into curd, Rusting of iron, **Evaporation of water**, Burning of wood

Ans. Evaporation of water - Others are irreversible or chemical changes.

4. Formation of ice from water, Blowing of balloon, **Ignition of a matchstick**, melting of an ice cream

Ans. Ignition of a matchstick - Others are reversible or physical changes.

E. Define the following terms.

1. Reversible change - A change which can be reversed to form the 'original substance' is called a reversible change. Example - Stretching of rubber band
2. Irreversible change - The change which cannot be reversed to form the original substance is called irreversible change. Example - Burning of paper
3. Physical change - A change in which only the physical properties of a substance get changed and no new substance is formed is called a physical change.
Example - Inflating a balloon
4. Chemical change - An irreversible change in which the composition and chemical properties of the reacting substances get changed and which cannot be reversed by reversing the conditions is called a chemical change. Example - Cooking of food

Higher Order Thinking Skills.

1. Describe the photochemical reaction which takes place in plants resulting in the formation of food.

Ans. The photochemical reaction in plants resulting in the formation of food is called photosynthesis. The leaves of the plants have microscopic holes, called stomata, from where the carbon dioxide enters the plants. Water enters the plants through their roots. After being absorbed by the roots, water travel all the ways through the stem to reach the leaves. When the sunlight falls on the leaves of the plants, chlorophyll captures the energy in it, and stores it for further use. This energy is eventually used to convert water into hydrogen and oxygen. Hydrogen combines with the carbon dioxide in order to produce the food for the plant in the form of glucose ($C_6H_6O_{12}$), whereas oxygen, a by - product of the entire process, is let out through the stomata.

2. Why do the articles made of iron when placed in moist air get covered with reddish - brown, powdery substance? Is this process a physical or chemical change? Give reason to support your answer.

Ans. Articles made of iron when placed in moist air get covered with reddish brown powder called rust. The upper layer of iron reacts with water and oxygen present in air in the form of moisture and form a reddish brown powder which is hydrated iron oxide commonly known as rust. it is a chemical change because we cannot get back iron from the rusted iron.