



UNIQUE STUDY POINT

Changes Around Us

EXERCISES

Question 1: To walk through a waterlogged area, you usually shorten the length of your dress by folding it. Can this change be reversed?

Answer: Yes, by unfolding the dress this change can be reversed.

Question 2: You accidentally dropped your favourite toy and broke it. This is a change you did not want. Can this change be reversed?

Answer: No, it cannot be reversed, so it is an irreversible change.

Question 3: Some changes are listed in the following table. For each change, write in the blank column, whether the change can be reversed or not.

S. NO.	Change	Can be reversed (Yes/No)
1.	The sawing piece of food	
2.	The melting of ice candy	
3.	Dissolving Sugar in Water	
4.	The cooking of food	
5.	The ripening of a mango	
6.	Souring of milk	

Answer:

S. NO.	Change	Can be reversed (Yes/No)
1.	The sawing piece of food	No
2.	The melting of ice candy	Yes
3.	Dissolving Sugar in Water	No
4.	The cooking of food	No
5.	The ripening of a mango	No
6.	Souring of milk	No

Question 4: A drawing sheet changes when you draw a picture on it. Can you reverse this change?

Answer: This change can be reversed if a pencil is used to draw the picture. If a pen or colors are used to draw the picture, change cannot be reversed.

Question 5: Give examples to explain the difference between changes that can or cannot be reversed.

Answer: Examples of Reversible Changes:

- Melting of Ice into water. By freezing the water we can obtain ice again.
- Folding a paper: By unfolding it, we can undo the change.
- Hot milk to cold milk: By boiling milk, we can make it warm.

Example of Irreversible Changes:

- Burning of candle.
- Bursting of crackers.
- Cutting of trees.

Question 6: A thick coating of a paste of Plaster of Paris (POP) is applied over the bandage on a fractured bone. It becomes hard on drying to keep the fractured bone immobilised. Can the change in POP be reversed?

Answer: No, the change in POP cannot be reversed because plaster of Paris on getting mixed with water changes into a hard mass and form a new compound.

Question 7: A bag of cement lying in the open gets wet due to rain during the night. The next day the sun shines brightly. Do you think the changes, which have occurred in the cement, could be reversed?

Answer: No, these are irreversible chemical changes.

To access the solutions in offline mode, we are providing all the solutions in PDF format which can be downloaded easily and refer whenever required. Link to download the solutions is given below:

Extra Questions
Short Type Questions and Answers

Question 1. What are the differences between reversible changes and irreversible changes?

Answer: The differences between reversible changes and irreversible changes:

Reversible changes	Irreversible changes
1. A change which can be undone or reversed.	1. A change which cannot be undone or reversed.
2. It is a temporary change.	2. It is a permanent change.
3. Melting and folding are examples of it.	3. Burning and cooking of food are examples of it.

Question 2. Can you obtain wood from sawdust?

Answer: No, because it is an irreversible change.

Question 3. Can we say that ironing of a cloth is a reversible change? Give reasons.

Answer: Ironing removes the wrinkles of the clothes, which can come back in the same condition. Hence, ironing of a cloth is a reversible change.

Question 4. Can deforestation be considered as a reversible change?

Answer: No, deforestation can't be considered as a reversible change because no same tree can be planted after cutting.

Question 5. Is printing a reversible or an irreversible change?

Answer: Printing is an irreversible change because we cannot separate and collect the printing ink after printing.

Question 6. Give two examples each of reversible and irreversible changes.

Answer: Reversible changes: Melting of wax and stretching of a rubber band.
Irreversible changes: Burning of a paper and growth of plants.

Question 7. State whether burning of a piece of paper is a reversible or an irreversible change.

Answer: When we burn a piece of paper, it changes into ash and smoke. We cannot combine the ash and smoke to form the original piece of paper. So the burning of a piece of paper is an irreversible change.

Question 8. Classify the following as reversible or irreversible changes:

- (i) Growth of a plant
- (ii) Ploughing a field,

- (ii) Melting of wax
- (iv) Falling of rain
- (v) Pulling of rubber string
- (vi) Breaking of a glass rod
- (vii) Cooking of food.

Answer:

Reversible changes: (ii), (iii), (v)

Irreversible changes: (i), (iv), (vi), (vii).

Question 9. How does curd set? Is this change reversible?

Answer: A small quantity of curd is added to warm milk. The milk is stirred and is set aside undisturbed for a few hours at a warm place. In a few hours, the milk changes into curd. Curd formed from milk cannot be changed into milk again. So, this is an irreversible change.

Question 10. What are fast and slow changes?

Answer: Fast changes take place over a short duration of time.

Slow changes take a longer duration of time to complete.

Question 11. Formation of clouds is a physical change. Explain.

Answer: Formation of clouds is a physical change as it is phase transformation cycle of natural water from liquid to gas and then, gas to liquid. Hence, the property of water never changes in clouds form.

Question 12. Explosion of a cracker is a chemical change. Explain.

Answer: Explosion of crackers is a chemical change because the explosive reactants are transformed into gaseous products along with heat and light and thus cannot be reversed. Hence, it is a chemical change.

Question 13. What is charring of sugar? Is it a chemical change?

Answer: When sugar is continuously heated in the porcelain dish, it becomes foggy due to water vapour. A black powdery substance is left behind, which is charcoal. This process is also called charring of sugar and this is a chemical change.

Question 14. Give some examples of changes which take place on their own.

Answer: Many changes are taking place around us on their own. For example:

- Ripening of crops in the fields.
- Leaves fall from trees.
- Flowers bloom and then wither away.
- Growing of hair and nail.

Question 15. Does, like all other liquids, water expand on heating and contract on cooling?

Answer: No, water is an exception. Water contracts on cooling till 4°C but expands when cooled further down from 4°C to 0°C.

Question 16. List few ways to bring a change.

Answer:

- Heating or cooling
- Mixing two or more substances
- By applying force etc.

Question 17. Explain how a metal rim slightly smaller than a wooden wheel can be fixed on it.

Answer: The metal rim is always made slightly smaller than the wooden wheel. The metal rim is heated; on heating, the rim expands and fits onto the wheel. Cold water is then poured over the rim. Due to cooling, rim contracts and fits tightly over the wheel.

Long Type Questions and Answers

Question 1. Match the following items given in Column A with that in Column B:

Column A	Column B
(a) Irreversible change	(i) Needs mixing of two substances
(b) Reversible change	(ii) Needs heating
(c) Sawing of a piece of wood	(iii) Chemical change
(d) Ripening of mango	(iv) A new substance is formed
(e) Melting of wax	(v) Physical change
(f) Formation of a sugar solution	(vi) No new substance is formed

Answer:

Column A	Column B
(a) Irreversible change	(vi) No new substance is formed
(b) Reversible change	(iv) A new substance is formed
(c) Sawing of a piece of wood	(v) Physical change

(d) Ripening of mango	(i) Needs mixing of two substances
(e) Melting of wax	(ii) Needs heating
(f) Formation of a sugar solution	(iii) Chemical change

Question 2. What are reversible and irreversible changes?

Answer:

Reversible changes: The changes which can be brought back to its original form are known as reversible changes. For example, melting of wax and stretching of a rubber band.

Irreversible changes: The changes in which the matter cannot be brought back to its original state are known as irreversible changes. For example, burning of paper changes it into ash and smoke. Paper cannot be obtained back from ash and smoke.

Question 3. Define physical and chemical changes. Give examples.

Answer: Physical change: Physical change is a temporary change in which chemical composition of the substance does not change and no new substance is formed.

During a physical change, only the physical properties of a substance change. It is a reversible change. For example, melting of ice, during this change, the water changes from its solid form to liquid form. It can be solidified again. The water remains water in both the cases.

Chemical change: A chemical change is a permanent change in which not only the physical properties but chemical properties also change. It is an irreversible change. For example, formation of curd from milk, rusting of iron, etc.

Question 4. Give some examples of physical and chemical changes.

Answer: Examples of physical changes:

Tearing of sheet of paper into pieces, melting of ice, change of water into steam, breaking of glass tumbler, glowing of electric bulb, dissolution of sugar or salt in water.

Examples of chemical changes:

Burning of paper, wood, candle, etc., formation of curd from milk, cooking of food, rusting of iron and mixing of vinegar with baking soda, electrolysis of water.

Question 5. Classify the following changes in as many ways as you can:

1. Breaking of a brick with a hammer.
2. Beating of heart.
3. Germination of a seed.

4. Burning of an incense-stick (agarbatti).
5. Occurrence of solar eclipse.

Answer:

1. Physical change, irreversible change.
2. Periodic change, irreversible change.
3. Irreversible change,
4. Irreversible change, chemical change.
5. Irreversible change.

Question 6. Most physical changes are reversible. Give reasons with two examples.

Answer: Melting of ice: During this change, the water changes from its solid form to liquid form. It can be solidified again. The water remains water in both cases, hence reversible.

Glowing of an electric bulb: During this change, electricity is passed through the tungsten filament which becomes white hot and glows, but when the switch is off, the filament returns to its original shape and condition, hence totally reversible

Question 7. Give some examples from daily life where expansion of metal by heating is used. Explain.

Answer: Fixing of a metal rim on an wooden wheel and fixing of wooden handles in iron blade in agricultural tools are such examples.

The iron blade of these tools has a ring in which the wooden handle is fixed. Normally, the ring is slightly smaller in size than the wooden handle. To fix the handle, the ring is heated and it becomes slightly larger in size (expands). Now, the handle easily fits into the ring. When the ring cools down, it contracts and fits tightly onto the handle.

Such a change is also used for fixing the metal rim on a wooden wheel of a cart as. Again the metal rim is made slightly smaller than the wooden wheel. On heating, the rim expands and fits onto the wheel. Cold water is then poured over the rim, which contracts and fits tightly onto the wheel.

FOR MORE STUDY MATERIALS VISIT: WWW.UNIQUESTUDYONLINE.COM

JOIN US ON:

