

Class: VI
Subject: Chemistry
Topic: Changes around us
No. of Questions: 21

1. What do you mean by a reversible change?

Ans. A change that can be reversed and the original shape and size of the substance can be obtained back is called a reversible change.

2. Identify the reversible and irreversible changes in the following:

(i) Evaporation of water

(ii) Burning of paper

(iii) Melting of wax

(iv) Fermentation

Ans.

(i) Evaporation of water: Reversible change

(ii) Burning of paper: Irreversible change

(iii) Melting of wax: Reversible change

(iv) Fermentation: Irreversible change

3. Is the freezing of mercury a reversible or irreversible change?

Ans. It is a reversible change because the frozen mercury can return to liquid state if the temperature is high enough.

4. What is the effect of heating on a metal?

Ans. When heated, a metal expands and comes back to original size on cooling.

5. What is the difference between expansion and contraction?

Ans. The increase in size of an object on heating is called expansion whereas the decrease in size of an object on cooling is called contraction.

6. Why is the iron blade in soil digging tools heated to fix to a wooden handle?

Ans. The iron blade of soil digging 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). Therefore, the handle easily fits into the ring. When the ring cools down, it contracts and fits tightly on to the handle.

7. Justify the statement "Melting of coal tar is a reversible change".

Ans. Melting of coal tar on heating is a reversible change since molten coal tar gets cooled and solidifies again to its black solid shape.

8. Why is burning of candle an irreversible change?

Ans. When a candle is burned, chemical reactions take place between the wax and oxygen. These chemical reactions release energy in the form of heat and light. These chemical reactions can't be reversed back.

9. What is meant by thermal expansion?

Ans. When a substance is heated, it expands and its volume gets increased. This type of expansion is called as thermal expansion.

10. (a) What are slow and fast changes? Give one example of each.

(b) Can change of day and night be considered a fast change? Explain.

Ans. (a) The changes which take place in a long period of time are called slow changes. For example: rusting of iron.

The changes which take place in a short period of time are called fast changes. For example: bursting of crackers.

(b) Change of day and night cannot be considered a fast change since it doesn't occur in a small span of time. It is a slow change.

11. Why is melting of wax a reversible change?

Ans. Melting of wax is just a phase change. The physical properties of wax change, but the chemical properties do not. Since wax melts because temperature of the wax is raised, on cooling, the wax returns to its original form.

12. Why does milk in saucepan overflow when heated over gas?

Ans. On heating, particles of milk absorb heat and start moving away and overflow from the saucepan.

13. How can expansion process be used for tightly fixing a metal rim on a wooden wheel?

Ans. 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.

14. A potter makes clay pots using potter's wheel. These pots are dried and then baked. Identify the reversible and irreversible changes that take place in the process.

Ans. Potter uses wet clay to make pots of different sizes and shapes using potter's wheel. This is a reversible change because wet clay can be converted back into original clay.

The clay pots are then dried and baked to make them strong. This is an irreversible change since baked clay pot cannot be changed back into the original clay.

15. Why making statues out of plaster of Paris is an irreversible change?

Ans. Making statues out of plaster of Paris is an irreversible change because plaster of Paris has a property of setting into a hard mass on getting mixed with water due to the formation of a new compound. The hard mass cannot be converted back into the previous plaster of Paris. Hence, it is an irreversible change.

16. What is meant by the term melting point of a metal?

Ans. The temperature at which the metal changes from a solid state to a liquid state is called as the melting point of metal.

17. What do you mean by expansion?

Ans. A phenomenon in which a substance expands on heating and changes its shape is called expansion.

18. Select an example of reversible change.

- (a) Rusting of iron
- (b) Burning of petrol
- (c) Wetting of paper
- (d) Baking cake

Ans. (c)

Wetting of paper is a reversible change as water can be evaporated by applying heat to get the dry paper.

19. Fixing of iron rim to the wooden wheel of a cart involves:

- (a) Cooling followed by heating.
- (b) Heating followed by cooling.
- (c) Heating followed by melting.
- (d) Only heating.

Ans. (b)

Fixing of iron rim to the wooden wheel of a cart involves heating followed by contraction on cooling.

20. Loops are present in the pipelines:
- (a) to handle the expansion and contraction of the metal pipes during summers and winters respectively.
 - (b) to handle the expansion of the metal pipes during winters.
 - (c) to handle the contraction of the metal pipes during summers.
 - (d) None of these.

Ans. (a)

Loops are present in the pipelines to handle the expansion and contraction of the metal pipes during summers and winters

21. When a solid expands, its volume:
- (a) decreases
 - (b) remain same
 - (c) increases
 - (d) first increases and then start decreasing

Ans. (c)

When a solid expands, its volume increases.