

NCERT SOLUTIONS

CLASS-VI SCIENCE

CHAPTER-6

CHANGES AROUND US

Exercise 6

1. *We usually shorten the length of the pant by folding it, when walking through a waterlogged area. Is the change reversible or not?*

Answer

Yes,

The change is reversible and it can be done by unfolding the pants.

2. *You accidentally drop your Barbie doll and break it. Is this reversible or not?*

Answer

No, The change (breaking of Barbie doll) cannot be reversed.

3. *Among the examples listed down, state whether they are reversible or not.*

| S.no | Changes | Reversible or irreversible |
|------|----------------------------------|----------------------------|
| 1 | Dissolving salt in water | |
| 2 | Melting of ice cubes | |
| 3 | Release of steam from the cooker | |
| 4 | Ripening of a fruit | |
| 5 | Freezing orange juice by cooling | |
| 6 | Melting of wax | |

Answer

| S.no | Changes | Reversible or irreversible |
|------|--------------------------|----------------------------|
| | Dissolving salt in water | Reversible |

| | | |
|---|----------------------------------|--------------|
| 2 | Melting of ice cubes | Reversible |
| 3 | Release of steam from the cooker | Irreversible |
| 4 | Ripening of a fruit | Irreversible |
| 5 | Freezing orange juice by cooling | Reversible |
| 6 | Melting of wax | Reversible |

4. Is the change where you draw a picture on a drawing sheet, reversible?

Answer

If we draw a picture using a pencil sketch, then the change is reversible.

But, if the picture is drawn using an oil color, sketch, watercolors or pen, then the change is irreversible.

5. State the examples for reversible and irreversible changes.

Answer

i) If we draw a picture using a pencil sketch, then the change is reversible.

However, if the picture is drawn using an oil color, sketch, watercolors or pen, then the change is irreversible.

ii) If we inflate a tire, the shape and size of the tire changes. This change can be reversed, but if the tire bursts while inflating, then the change is irreversible.

iii) Melting of ice is a reversible change whereas cooking of food is an irreversible change.

6. For a fractured bone, Plaster of Paris bandage is preferred. Why? State whether the change is reversible or irreversible.

Answer

Plaster of Paris bandage is preferred because it becomes hard on drying to keep the bone immobilized which help in recovering at a faster rate. Since there is a change of state, a new product is formed which cannot be brought back to its original form. So the change is irreversible.

7. If you leave a piece of iron outside for a long time it turns brown leading to the formation of rust. Is the change reversible or irreversible?

Answer

The formation of rust is completely a new substance due to the reaction of oxygen with the iron, which is termed to be a chemical change. Therefore, it not possible to avoid the rust formation and the change is irreversible.

8. State a few examples for slow changes.

Answer

i) Germination of seed

- ii) Rusting of iron
- iii) Curdling of milk

9. **State a few examples for fast changes.**

Answer

- i) Burning of candle
- ii) Burning of paper
- iii) Inflating tire

10. **State any two examples of reversible changes.**

Answer

- i) Melting of ice
- ii) Melting of candle wax

11. **State any two examples of irreversible changes.**

Answer

- i) The ingredients like flour, egg and sugar is converted to cake
- ii) Cooking of food
- iii) Burning of fuel

12. **Deforestation is an irreversible change. Why?**

Answer

Once the trees are cut, the same tree cannot be planted. So deforestation is considered as an irreversible change.

13. **The explosion of a cracker is a chemical change. Explain.**

Answer

The explosive reactants of a cracker are transformed into gaseous products along with heat and light. Thus, it cannot be brought back to the original form. Hence, it is a chemical change.

14. **Blacksmith heats the metal rim to fix it on the cartwheel. Explain.**

Answer

The metal rim will be smaller than its usual size. On heating, the metal rim expands and fits onto the wheel. Similarly, on cooling, the metal rim contracts and fits tightly to the wheel.

15. **Define slow changes and fast changes. State a few examples.**

Answer

Slow changes:

The changes, which take place slowly over a period is called slow changes.

Ex- Germination of seed, formation of day and night and Rusting of iron

Fast changes:

The changes which take place quickly is called fast changes.

Ex: Burning of paper, Melting of a candle and blowing of balloons.

16. **Classify the following as slow or fast changes:**

i) **Growth of a plant**

ii) **Formation of clouds**

iii) **Formation of sugar solution**

iv) **Inflation of tire**

v) **Melting of chocolate**

Answer

i) Slow change

ii) Slow change

iii) Fast change

iv) Fast change

v) Fast change

17. **What are the changes taking place in our body?**

Answer

a) The height of the person increases

b) Nails grow

c) The weight of the person increase

d) Our hair grows.

18. **Formation of clouds is usually a physical change. Justify the statement.**

Answer

The formation of clouds is a physical change because there is a phase transformation cycle of natural water from liquid to gas and then, gas to liquid. Hence, the property of water never changes.

19. **Explain the physical changes and chemical changes with an example.**

Answer**Physical change:**

i) The changes where the physical property of the substance varies without any formation of new products.

ii) These changes are reversible and the products are identical to the reactants.

Ex: Melting of ice, during this change the water changes from its solid form to liquid form, melting of wax.

Chemical change:

i) The changes where the chemical property of the substance varies with the formation of new products.

ii) These changes are irreversible and the products are not identical to the reactants.

Ex: Formation of curd from milk, rusting of iron.

20. What will be the change when sugar is heated?

Answer

When sugar is continuously heated, a black powdery substance is formed which is called charcoal. Since a new product is formed, it is termed to be a chemical change.

21. Give some examples of changes, which take place on their own.

Answer

The changes that take place on their own are

i) Shedding of leaves

ii) Ripening of fruits

iii) Growth of the body

iv) Blooming of flowers

22. How do we convert milk into curd and what type of change is it?

Answer

The milk is taken in a vessel and a small quantity of curd is added into it. The milk is stirred and it is kept aside for few hours without any disturbance. Finally, the milk is converted into curd. However, curd formed cannot be converted into milk again indicating that it is an irreversible change.

