



INDIAN SCHOOL AL WADI AL KABIR



Class: VI	DEPARTMENT: SCIENCE 2021-2022	DATE: 23.01.2022
WORKSHEET NO: 09 WITH ANSWERS	TOPIC: CHANGES AROUND US	NOTE: A4 FILE FORMAT
NAME OF THE STUDENT:	CLASS & SEC:	ROLL NO.

I. VERY SHORT ANSWER TYPE QUESTIONS (1M):

1. What is a change ?
[Hint: A change refers to a noticeable difference in shape, size, colour, state, internal structure or any other property of a substance or an object.]
2. Give two examples each of reversible and irreversible changes.
[Hint: Reversible changes: Melting of wax and stretching of a rubber band.
Irreversible changes: Burning of paper and growth of plants.]
3. What do you mean by expansion?
[Hint: Solids, liquids and gases occupy more space when they are heated. This is called expansion.]
4. What is the difference between the following changes:
(a) Rolling a roti from dough.
(b) Baking a roti.
[Hint: (a)Rolling of roti out of dough is a reversible change.
(b) Baking a roti is an example of change which cannot be reversed.]
5. A small sized boat is made by folding a paper. Can this change be reversed? Write one more example of similar type.
[Hint: Yes, it can be reversed. Another example is an aeroplane made by folding paper.]
6. We dissolve salt in water. How can we reverse this change?
[Hint: This change can be reversed by evaporation of water by which salt can be obtained. Water vapour undergoes condensation to get liquid water.]
7. Why conversion of water into water vapour is a reversible change?
[Hint: Conversion of water into water vapour is a reversible change because water vapour when cooled gets converted into liquid water again.]
8. A fully blown balloon burst on its own when kept under the sun. Give reason.
[Hint: The air inside the balloon expands by absorbing heat from the sun.]
9. Metallic electric wires sag during summers. Give reason.
[Hint: Due to the heat in summer, the metal wires expand and increase their length.]
10. Is printing of book a reversible or an irreversible change?
[Hint: Printing is an irreversible change because the ink and the paper cannot be separated once printing is done.]

For the questions that follows, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below:

i) Both A and R are true and R is the correct explanation of the assertion.

ii) Both A and R are true but R is not the correct explanation of the assertion.

iii) A is true but R is false.

iv) A is false but R is true.

11. Assertion (A): Burning of matchstick is an irreversible change.

Reason (R): The ashes formed on burning cannot be converted back to matchstick.

i) Both A and R are true and R is correct explanation of the assertion.

12. Assertion (A): The change of water from liquid to steam on heating is reversible change.

Reason (R): Conversion of liquid into steam is called evaporation.

ii) Both A and R are true but R is not the correct explanation of the assertion.

13. Assertion (A): Small gap is left between the rails of a railway track.

Reason (R): Cooling of substances result in expansion.

(iii) A is true but R is false.

II. PASSAGE BASED QUESTIONS:

Read the given passage and answer the following questions.

The iron blade of the tools which are used to dig the soil 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. Now the handle easily fits into the ring. When the ring cools down, it fits tightly on to the handle.

1. Whenever a metal is first heated and then cooled, which of the following changes take place?
 - a. First contracts, then expands
 - b. First expands, then contracts**
 - c. Cannot be determined
 - d. Both a and b
2. Expansion and contraction are examples of
 - a. Reversible changes**
 - b. Irreversible changes

- c. Chemical changes
 - d. All of these
3. When an object is cooled, its size
- a. increases
 - b. remains the same
 - c. **decreases**
 - d. none of the above
4. Which of the following changes will show expansion?
- a. burning of paper
 - b. **heating of iron**
 - c. cooling of air
 - d. heating of wood
5. The process in which the substances decrease in size on cooling is called
- a. expansion
 - b. melting
 - c. **contraction**
 - d. evaporation

III. CASE STUDY BASED QUESTIONS

There was some construction work in Rahul's house during the rainy season. A truck filled with cement bags came and labourers started unloading the bags on a waterlogged road. Rahul when saw this, immediately stopped the labourers and asked them to keep the bags inside the house in a dry place.

1. What would have happened to the cement bags if kept in waterlogged roads?
- a. The cement remains same.
 - b. The cement undergoes a reversible change.
 - c. **The cement hardens on reacting with water.**
 - d. The cement dissolves in water.
2. Identify the type of change here.
- a. Physical change which is reversible.
 - b. Chemical change which is reversible.
 - c. **Chemical change which is irreversible.**
 - d. Both reversible and irreversible changes

IV.a) SHORT ANSWER TYPE QUESTIONS: (2M)

1. What are fast and slow changes?
[Hint: Fast changes take place over a short duration of time. Eg. Melting of ice. Slow changes take a longer duration of time to complete. Rusting of iron.]
2. Why is stretching a rubber band an example of reversible change?
[Hint: Stretching a rubber band is a reversible change because once we leave the stretched rubber, it gets back to its original position.]

3. Expansion and contraction are considered as reversible changes. Give reasons.

[Hint-When the cause of heating or cooling is removed, the substances return to their original state. Thus, expansion and contraction are reversible changes.]

4. How does a blacksmith change a piece of iron into different tools?

[Hint: The piece of iron is heated till it becomes red hot. It then becomes soft and is beaten into a desired shape.]

5. Explain how a metal rim which is slightly smaller than a wooden wheel can be fixed on it.

[Hint: 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.]

IVb) SHORT ANSWER TYPE QUESTIONS: (3M)

1. Differentiate reversible and irreversible changes with examples.

[Hint: Reversible changes - Changes that can be reversed to get the original substance are called reversible changes. Example: Melting of ice into water. Irreversible changes - Changes that cannot be reversed to get back the original substance are called irreversible changes. Example: setting of milk into curd.]

2. State whether burning a piece of paper is a reversible or an irreversible change. Give reasons.

[Hint: Burning a piece of a paper is an irreversible change. 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.]

3. Distinguish between physical and chemical changes. Give suitable examples.

[Hint: Any change in the physical properties such as texture, colour, temperature, shape and change of state of a substance is referred to as a physical change. Eg. Melting of ice.

A chemical change occurs when the composition of the substance is changed and a new substance is formed. Eg. Rusting of iron.]

4. Give an example in which both reversible and irreversible changes occur.

[Hint: Burning of a candle is an example having both reversible and irreversible changes.

When candle burns, wax melts. Melting alone is a reversible change, because on cooling solid wax is formed.

Burning wax vapours produces carbon dioxide and water vapour which passes into the atmosphere and we cannot get back the candle from the products formed. So this change is irreversible.]

5. Give some examples of expansion in solid, liquid, and gas.

i) Examples of expansion in solids: Expansion of railway track in hot weather and expansion of metal bottle cap on heating.

ii) Examples of expansion of liquids: Expansion of water on heating and expansion of mercury in thermometer.

iii) Examples of expansion of gas: Expansion of air in balloon on heating and bursting of cycle tube in hot weather because of expansion of air in it.

V. LONG ANSWER TYPE QUESTIONS. (5M)

1. What is the effect of heating and cooling on some materials?

[Hint: Effects of Heating

i) Heating causes expansion (increase in size). When a metal cap is fixed tightly on a jar, pouring warm water causes the lid to expand and help in easy removal of lid.

ii) A change in state-Eg. Melting of ice to water.

Effects of cooling

i) Cooling causes contraction (shrink in size). In a clinical thermometer, the mercury level rises up indicating a rise in temperature, and on cooling it contracts and starts to fall back.

ii) A change in state. Eg. Steam condenses to water on cooling.]

2. Explain why the burning of incense stick is said to be an irreversible change whereas the boiling of water is known as reversible change.

[Hint: If we burn an incense stick, it changes into ash and some gases. Now, we cannot combine the ash and gases to form the original incense stick. So, this is a change which cannot be reversed. Hence the burning of incense stick is an irreversible change.

When we boil water by heating then it changes into steam. Now, if we cool the steam, then water is formed again. So changing of water into steam has been reversed by cooling. Thus, the boiling of water is reversible change.]

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