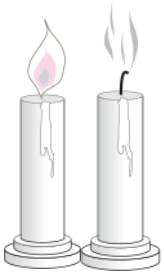
Very Short Answer Questions

Q.1. Look at the figure below which shows three situations, (a) a burning candle, (b) an extinguished candle and (c) melting wax. [NCERT Exemplar]



Which of these shows a reversible change and why?

Ans. Melting of wax in (c), which on cooling changes back to solid wax.

Q.2. A piece of iron is heated till it becomes red-hot. It then becomes soft and is beaten to a desired shape. What kind of changes are observed in this process- reversible or irreversible? [NCERT Exemplar]

Ans. The changes that can be reversed (reversible).

Q.3. Paheli had bought a new bottle of pickle from the market. She tried to open the metal cap to taste it but could not do so. She then took a bowl of hot water and immersed the upper end of the bottle in it for five minutes. She could easily open the bottle now. Can you give the reason for this?
[NCERT Exemplar]

Ans. Expansion of metal cap on heating.

Short Answer Questions

Q.1. Can we reverse the following changes? If yes, suggest the name of the method.

[NCERT Exemplar]

(i) Water into water vapour

Ans. Yes, condensation

(ii) Water vapour into water

Ans. Yes, evaporation

(iii) Ice into water

Ans. Yes, freezing

(iv) Curd into milk

Ans. Not possible

Q.2. Which of the following changes cannot be reversed? [NCERT Exemplar]

(i) Blowing of a balloon

Ans. Reversible

(ii) Folding a paper to make a toy aeroplane

Ans. Reversible

(iii) Rolling a ball of dough to make roti

Ans. Reversible

(iv) Baking cake in an oven

Ans. Irreversible

(v) Drying a wet cloth

Ans. Reversible

(vi) Making biogas from cow dung

Ans. Irreversible

(vii) Burning of a candle

Ans. Irreversible

Q.3. Boojho's sister broke a white dove, a symbol of peace, made of Plaster of Paris (POP). Boojho tried to reconstruct the toy by making a powder of the broken pieces and then making a paste by mixing water. Will he be successful in his effort? Justify your answer.
[NCERT Exemplar]

Ans. Boojho will not be successful, because making of toy from Plaster of Paris (POP) is a change that cannot be reversed.

Q.4. Tearing of paper is said to be a change that cannot be reversed. What about paper recycling? [NCERT Exemplar]

Ans. Paper recycling is also an irreversible process. This is because we do get paper on paper recycling but it is not the same original paper was used. The colour and texture of the paper changes.

Q.5. Is steaming of idli batter to make idli a reversible change? Give reasons to support your answer.

Ans. No, because once the idli batter is steamed, it undergoes a chemical change which is irreversible.

Q.6. Differentiate between slow and fast change.

Ans.

S. No	Slow Change	Fast Change
1.	The change that takes place in long period of time.	The change that takes place in short period of time.
2.	**Examples:** curdling of milk germination of seed etc.	**Examples:** Burning of paper, bursting of cracker, etc.

Q.7. Energy is needed for a change. Give two examples to support this statement.

Ans.

i. When ice is kept outside the freezer, it melts.
ii. When alcohol is put on the back of palm, it evaporates.

Q.8. Can a change take place when two materials are not in contact? Give an example to support your answer.

Ans. No, because one material influences the other. For example, sharpening of a pencil with blade.

Q.9. 'Changes involve interaction.' Give an example to support this statement.

Ans. During the process of rusting, the iron has to be in contact with the moist air or water.

Q.10. Explain the term ‘solute’ and ‘solvent’ with an example.

Ans. Solute is the substance that is dissolved in the solvent to form a solution. For example, in a sugar solution, sugar is the solute and water is the solvent.

Long Answer Questions

Q.1. Give one example in each case. [NCERT Exemplar]

(i) Change which occurs on heating but can be reversed.

Ans. Heating of an iron rod.

(ii) Change which occurs on heating but cannot be reversed.

Ans. Baking of chapati.

(iii) Change which occurs on cooling but can be reversed.

Ans. Baking of chapati.

(iv) Change which occurs on mixing two substances, but can be reversed.

Ans. Formation of salt solution.

(v) Change which occurs on mixing two substances, but cannot be reversed.

Ans. Mixing of cement and water.

Q.2. A potter working on his wheel shaped a lump of clay into a pot. He then baked the pot in an oven. Do these two acts lead to the same kind of changes or different? Give your opinion and justify your answer.
[NCERT Exemplar]

Ans. These two acts lead to the different kinds of changes. Former can be reversed while the latter cannot be reversed. The pot can be broken down into lumps of clay but after baking the pot in an oven, it cannot be reversed back into its original form.

Q.3. Conversion of ice into water and water into ice is an example of change which can be reversed. Give four more examples where you can say that the changes can be reversed.
[NCERT Exemplar]

Ans.

i. Melting of wax
ii. Folding of a paper
iii. Knitting of a sweater
iv. Inflating of a tyre

Q.4. Change of a bud into a flower is a change which cannot be reversed. Give four more such examples. [NCERT Exemplar]

Ans.

i. Milk into curd
ii. Burning of wood
iii. Ripening of fruits
iv. Digestion of food

Q.5. Paheli mixed flour and water and [NCERT Exemplar]

(i) made a dough

Ans. irrevesible

(ii) rolled the dough to make a chapati

Ans. revesible

(iii) baked the chapati on a pan

Ans. irrevesible

(iv) dried the chapati and ground it in a grinder to make powder. Identify the changes (i) to (iv) as the changes that can be reversed or that cannot be reversed.

Ans. Irreversible

Hots (Higher Order Thinking Skills)

Q.1. Rahul puts a few drops of alcohol on the back of his hand, the alcohol disappears and his hand feels cool. Why does this happen?

Ans. This happens because the heat energy required for the change is provided by the body.

Q.2. What kind of change is the formation of clouds?

Ans. It is a physical change. Water after evaporation goes into the air, and form clouds by condensation process, so the water get back to the earth by precipitation.