HW

Physical and Chemical changes

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1. Mention two examples where both physical and chemical changes occur simultaneously.

Ans- When a candle burns, both physical and chemical changes occur.

* Chemical change - The wax near flame burns and gives new substances like carbon dioxide, carbon soot, water vapour, heat and light.
* Physical change - On heating, candle wax gets melted. Since it again turns into solid wax on cooling. So, the melting of wax and vapourisation of melted wax are physical changes.

(2) Give reason

(a) Freezing of water to ice and evaporation of water are physical changes.

Ans- Freezing of water means liquid water converting into solid ice. Here only a change in physical state is seen and it is reversible and no new substance is formed hence it is physical change. Even evaporation of water is physical change as it involves change of

state and it is reversible change.

(b) Burning of a candle is both a physical and a chemical change.

Ans- As the candle burn the wax starts melting which is a physical changes also the flame of the candle converts the wax into vapour and carbondioxide due to burning which is an example of chemical change hence burning of candle is both physical and chemical change.

c) Burning of paper is a chemical change.

Ans- It's a chemical change because when paper is burned, oxygen from the air combines with the carbon and hydrogen in the paper (as paper is an organic material, obtained from woods) burning some of it into carbondioxide and water. And energy is released into the surrounding as heat.

(d) Cutting of a cloth piece is a physical change, thought it cannot be reversed.

Ans- When we cut a cloth, there is only a change in the physical state because there is only the cutting of a cloth which does not involve any chemical change, shape or size change in the substance. Neither any light nor energy is being absorbed or released.