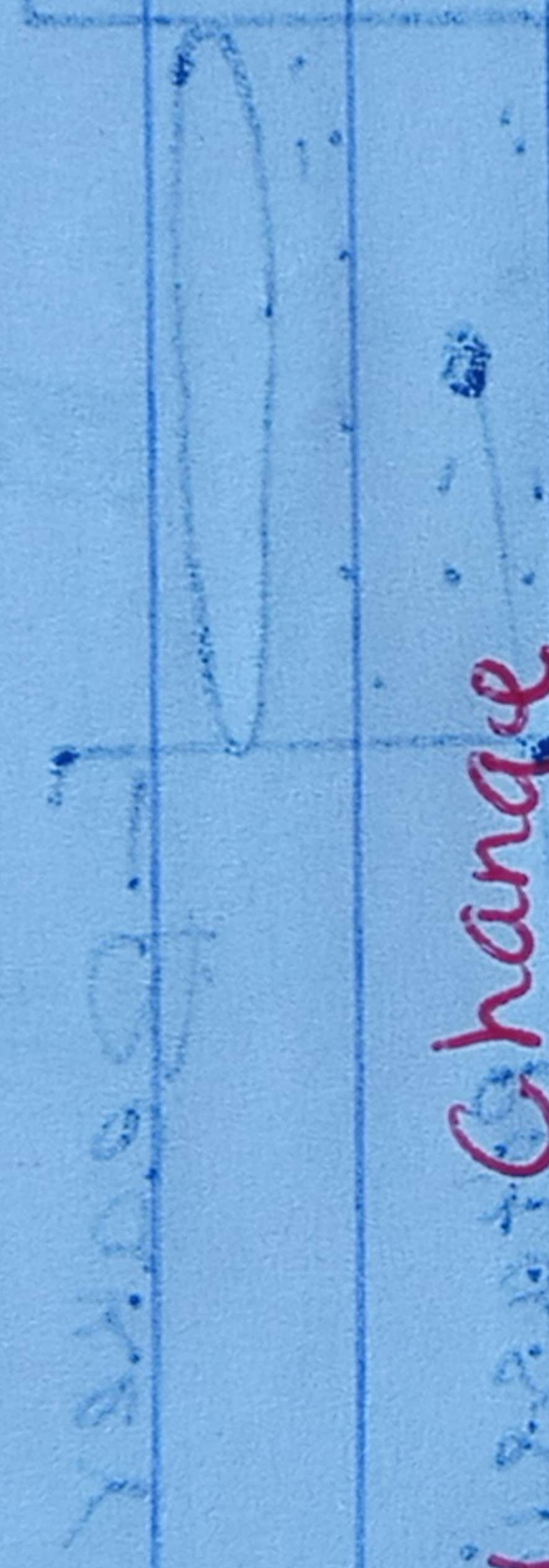


Distinguishing between temporary and permanent changes in substances.

Matter undergoes changes when subjected to heat, light, water, air and pressure.

Temporary change - it is a change that can be reversed and in which no new substance is formed.

Permanent change - it is a change in which a new substance is formed and the change is irreversible.



A. Temporary Change

Temporary change consists of

- i) physical temporary change
- ii) chemical temporary change.

i) Physical temporary change - It involves substance only changing in its states, shape or size and the particles remain unchanged.

Examples of physical temporary change:

i) Heating water boils forming water vapour.

It is reversible since on cooling, water vapour forming

water again.

liquid water $\xrightarrow{\text{Heat}}$ water vapour
(liquid) $\xleftarrow{\text{Cool}}$ (gas)

ii) Heating candle wax melt to form liquid. on cooling the liquid, a solid is formed.

Solid candle $\xrightarrow{\text{Heat}}$ liquid candle wax

(Solid)

(liquid)

(iii) Heating zinc oxide, a white solid changes to a yellow solid. On cooling the yellow solid changes back to white.

zinc oxide $\xrightarrow{\text{Heat}}$ zinc oxide

(solid) $\leftarrow$ (solid)

white

yellow

(iv) Heating solid iodine changes from solid to purple vapour. When cooled, the purple vapour changes back to ^{shiny black} white solid.

Solid iodine $\xrightarrow{\text{Heat}}$ iodine vapour.

$\xleftarrow{\text{Cool}}$

Characteristics of temporary physical change

7