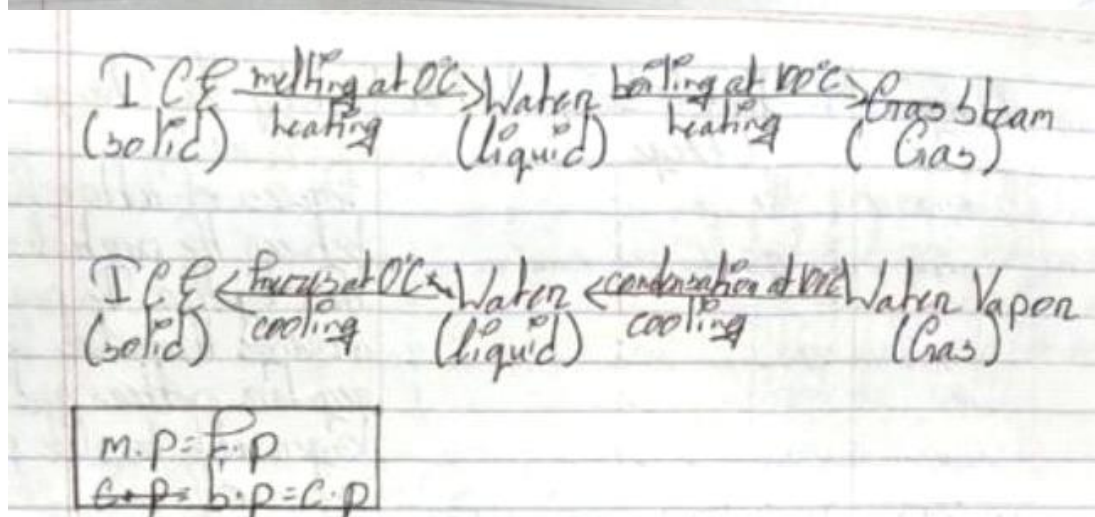
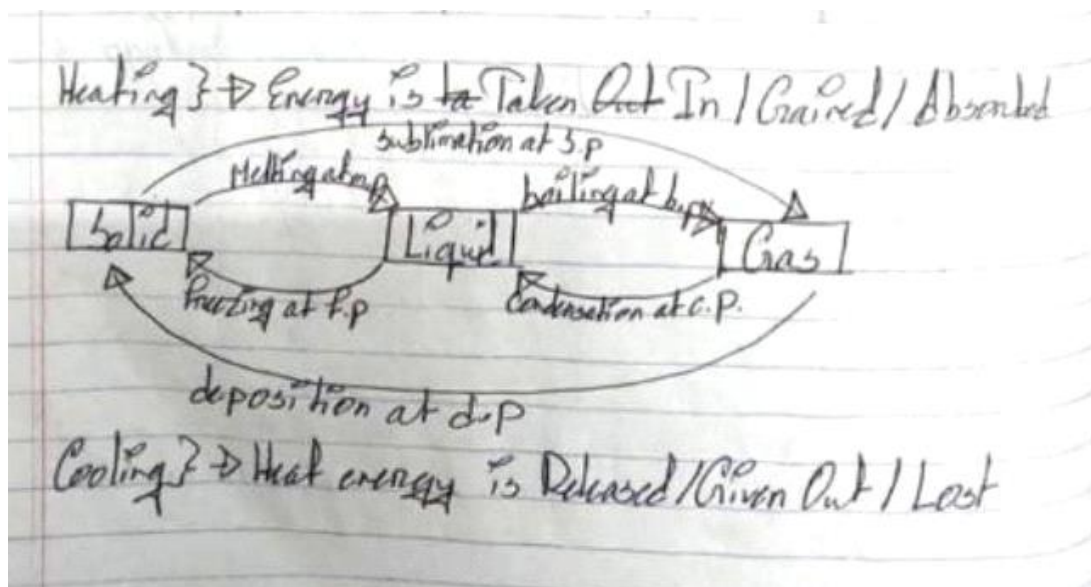


STATES OF MATTER(2)

► States of Matter:

Substance	Melting Point	Boiling Point	State	Current Temperature
J	-10	0	Liquid	
E	0	100	Solid	
R	-5	-1	Liquid	-5
S	2	5	SOLID	
Y	-100	-5	Gas	



► Explanation of changes of states:

<u>Change,</u>	<u>How to bring about the change.</u>	<u>Why the change occurs,</u>
solid to liquid.	Heat the solid, until it melts,	the particles gain kinetic energy and vibrate faster and faster. This allows the particles to overcome the force of attraction that holds them together in the solid, the regular pattern is broken down and the particles can now slide over each other,
liquid to solid	cooled the liquid until it freezes	the particles, lose kinetic energy and this allows the forces of attraction between the particles to hold them together. The particles arrange themselves into regular pattern and are longer able to slide past one another.
Liquid to gas	heat the liquid until it boils.	The particles gains kinetic energy, and are more further apart. Eventually the forces of attraction between the particles are completely broken and they are able to escape from the liquid,
gas to liquid	cooled the gas until it condenses	the particles lose kinetic energy and this allows the forces of attraction to bring the particles close together. The particles, eventually comes close together to form a liquid,
solid to gas	heat the solid until it sublimes,	the particles gain kinetic energy and vibrate faster and faster. Eventually the force of attraction between the particles is completely broken and they are able to escape from the solid

► Heating and cooling graph:

2d graph :

2 axis, **X AND Y AXIS OR VERTICAL AND HORIZONTAL.**

-> **vertical axis: Temperature.**

-> **horizontal axis: Time or energy absorbed/Released(J)**

****It shows the increase/ decrease of temperature of a substance and also change of state due to it.**

Note:

- ⇒ Find the current physical state of the substance, for which we are going to draw the heating or cooling graph.
- ⇒ The heating or cooling graph will always start from the current given temperature,
- ⇒ while drawing the heating or cooling graph, the temperature remains constant or same or fixed during any change of state.

#practice problem 1:

Substance, **A**

melting point is 20 degrees Celsius.

Boiling point is 95 degrees Celsius,

current temperature is zero degrees Celsius.

Draw the heating graph for the substance, a substance, a solid.

Substance d \rightarrow solid

