

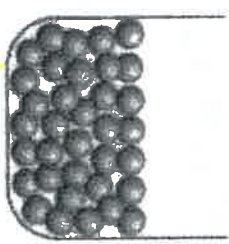
Physical states

————— increasing energy —————>



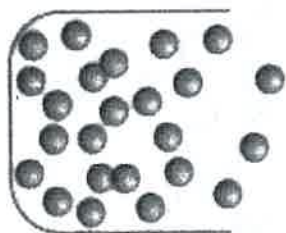
Solid

The molecules that make up a solid are arranged in regular, repeating patterns. They are held firmly in place but can vibrate within a limited area.



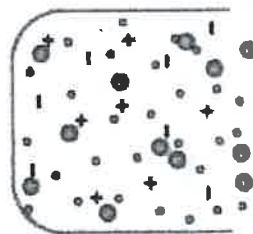
Liquid

The molecules that make up a liquid flow easily around one another. They are kept from flying apart by attractive forces. Between them liquids assume the shape of their containers.



Gas

The molecules that make up a gas fly in all directions at great speeds. They are so far apart that the attractive forces between them are insignificant.

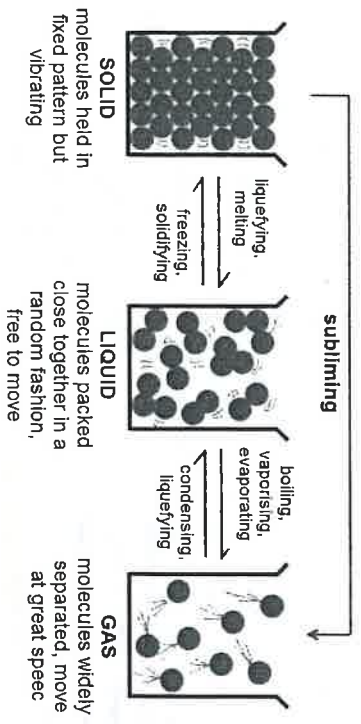


Plasma

At the very high temperatures of stars, atoms lose their electrons. The mixture of electrons and nuclei that results is the plasma state of matter.

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<p>Solids —</p> <ul style="list-style-type: none"> * Have a definite volume * Have a definite shape * Have a definite mass * Bonds that are very close together hold the atoms in a specific shape <p>Two Types of Solids</p> <p>Amorphous Solid-</p> <ul style="list-style-type: none"> * does not melt at a distinct temperature * Particles are not in a regular pattern <p>Crystalline Solid</p> <ul style="list-style-type: none"> * Particles in a regular, repeating pattern. * Melts at a distinct temperature 	<p>Liquids —</p> <ul style="list-style-type: none"> * Have a definite volume * No definite shape; takes the shape of its container * Have a definite mass * Some of the bonds break apart and the substance loses its shape; will take the shape of its container * Atoms are close together but slide/move past each other 	<p>Gases</p> <ul style="list-style-type: none"> * No definite shape * No definite volume * Definite mass * All bonds are broken and a gas will spread to fill whatever container you put it in <p><i>Fill's ALL Available space</i></p>	<p>Plasma</p> <ul style="list-style-type: none"> * a hot ionized gas * makes up approximately 99.9% of the Universe * made up of positive ions and negative electrons: ions * Takes extreme heat to create plasma
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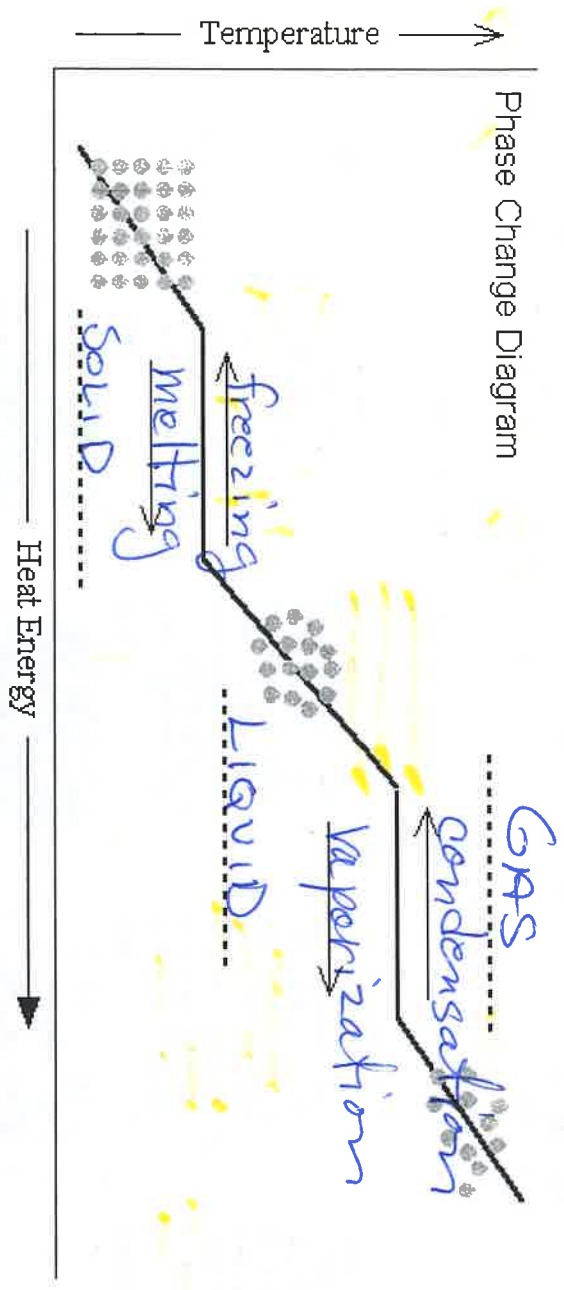
The Melting Point and the Freezing Point are the same temperature.
 The Boiling Point and the Condensation Point are the same thing.
 Explain one of these statements.

explain of these phase

Label: Solid, Liquid and Gas.

Fill in these terms: Freezing Condensation Melting Vaporization

gas becomes a plasma



What is kinetic energy? *the energy an object has due to its motion*

What is thermal energy? *energy of heat energy*

When thermal energy is increased, what happens to particles in any state of matter? *particles move faster*

When thermal energy is decreased, what happens to particles in any state of matter? *particles slow down*

Define:

Def. 1.1:

p. 14

Pressure of a Gas: The FORCE of its OUTWARD push divided by the areas of the walls of the container. (Pressure = Force/Area)

Temperature: A measure of the average energy of random motion of matter. This means the faster the particles are moving the greater their energy and the higher the temperature.

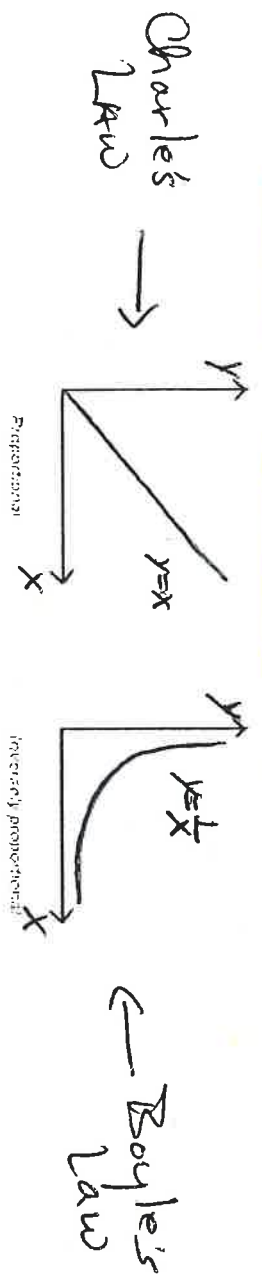
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Volume: The amount of space that matter fills. p. 13

Gas Laws

Charles Law: The pressure is constant. (Cheese Pizza-CP=Constant Pressure)

- The volume is directly proportional to the temperature.
- This means, if the temperature increases the volume must ALSO increase. If the temperature Decreases, the volume Also decreases.



Boyle's Law: The temperature is constant. (BIT Boyle's Law Temperature)

- The volume and pressure are inversely proportional.
- This means, if the volume increases the pressure decreases. And if the volume decreases the pressure increases.

