

Student Notes Pages

Matter

Definition - everything is matter, a state of matter is the physical form in which matter exists

* Can be classified/identified two ways: (1) state of matter (solid, liquid, & gas), (2) physical properties

States of matter:

Solid - keeps its own shape, & has a definite volume and a definite shape

Characteristics:

- definite shape
- definite volume
- densely packed
- very strong binding particles → prevents movement other than vibration ⇒ this is why they have a def. shape & volume

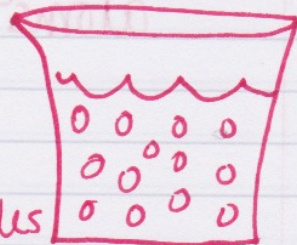


Liquid - takes the shape of its container, & has a definite volume but no definite shape

* can be described as "fluid" b/c it assumes the shape of the container that holds them.

Characteristics:

- no definite shape
- definite volume
- closely arranged particles
- strong binding particles → particles can move & slide past each other.



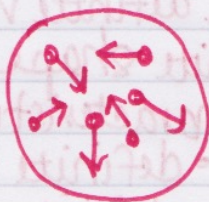
⇒ this movement prevents them from having a def. shape

Gases - a gas has no definite volume & no definite shape, it fills all available space

* can be described as "fluid" b/c it assumes the shape of whatever container holds them.

Characteristics:

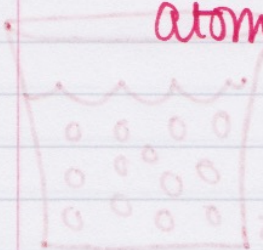
- no definite shape
- no definite volume
- particles arranged far apart
- weak binding particles $\Rightarrow$ this allows the particles to move freely



$\Rightarrow$ this allows the gas to expand or contract to fit its container

* When heat is introduced, the particles gain energy & begin to move quickly. When heat is released, particles lose energy & move more slowly.

Plasma - this matter forms when the temperatures are high enough to remove electrons from their atoms



- no definite shape
- definite volume
- closely packed particles
- strong binding forces