States of Matter

Way that particles interact (bond) with each other in space

Ionic : Strong (solids)

Polar Covalent : Weak (liquid)

Non-Polar Covalent : Very weak (gas)

Define "state" of matter

Volume : Space a set of particles occupy

Shape : The way the particles interact, and whether the particles move or stay in place

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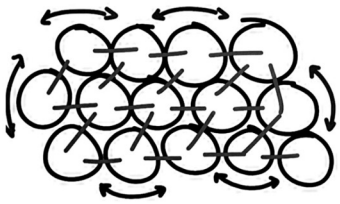
State of Matter Diagrams

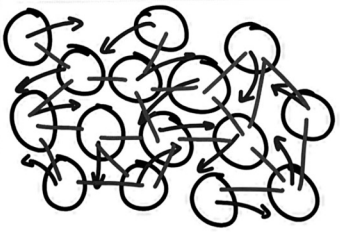
Solid

fixed Shape
fixed volume



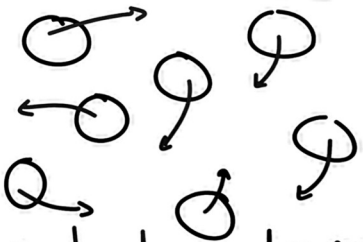
Liquid

variable Shape
fixed volume



Gas

variable Shape
variable volume



no bonds random move

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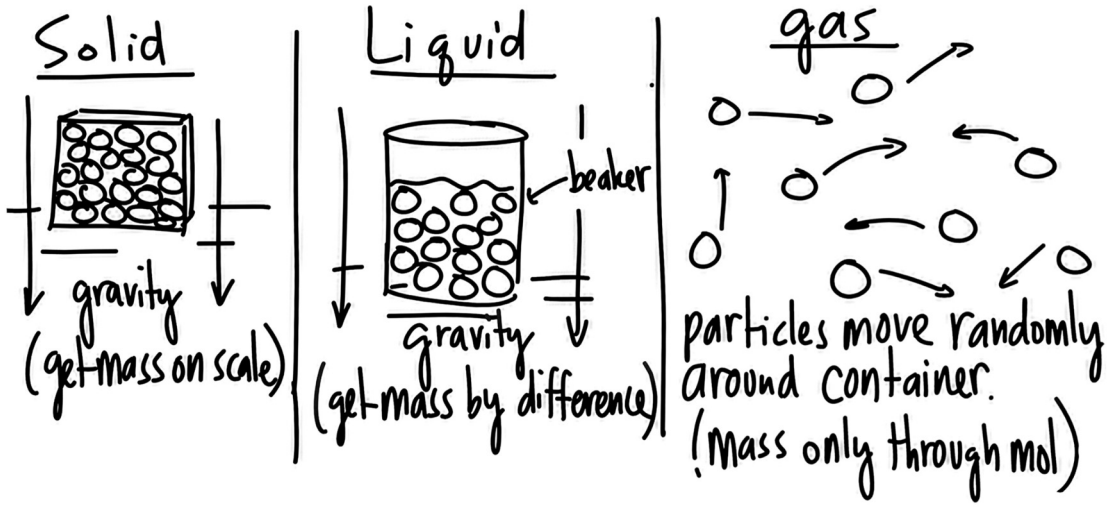
Comparing States of Matter



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Properties of the Gas State

Volume (V, L)
Space that matter occupies

Pressure (P, atm)
collisions with other particles/container in 1 second

Temperature (T, K)
Speed of a particle (i.e. how fast they move)

Number of Particles (n, mol)
How many gas particles are in a sample.

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