

States of Matter

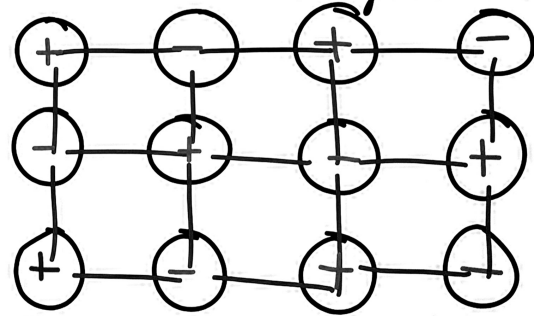
State: How particles interact with each other at a macro large level.

Solid

Fixed Shape

Fixed Volume

Strong Interactions



Ionic Compound as a solid

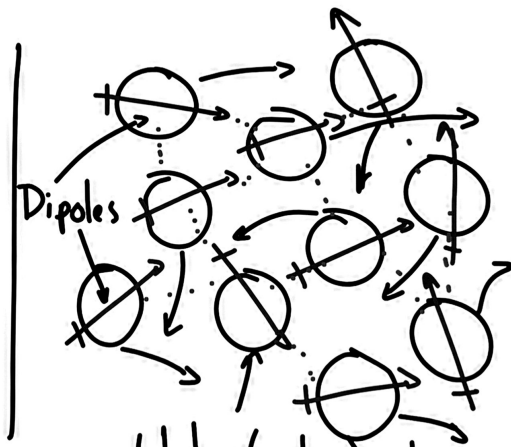
States of Matter

Liquid

Variable Shape

Fixed Volume

Medium Interactions



Water (polar) at room temp

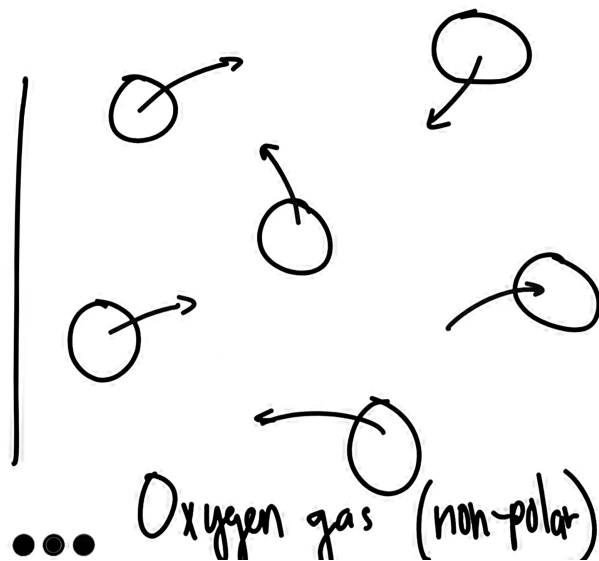
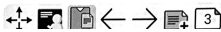
States of Matter

Gas

Variable Shape

Variable Volume

Weak Interactions



Dec-13-2024 6:10 PM 3

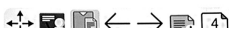
Molecular Interactions

Ionic - Ionic (Bond)

Type +/- crystal structure

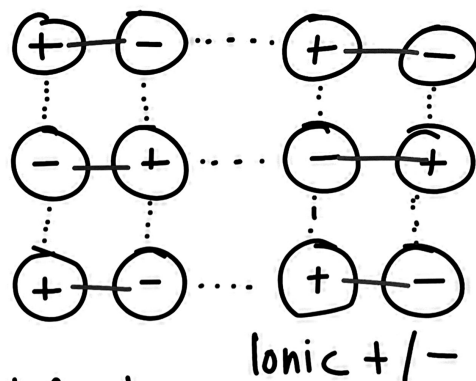
State Solid

Strength Strong



JF

Dec-13-2024 6:10 PM 4/6



Particle Connection

+/- charge attraction



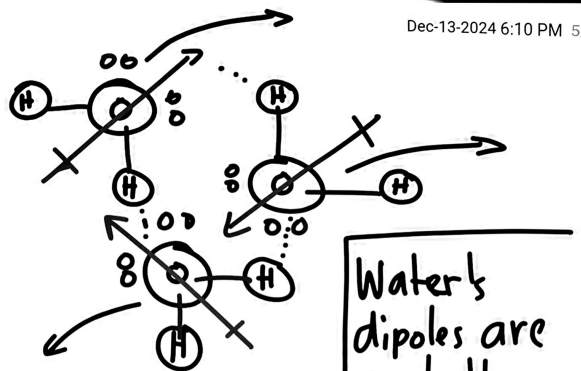
Molecular Interactions

Polar - Polar (Bond)

Type Dipole-Dipole

State Liquid

Strength Medium



Particle Connection

Positive dipole end w/ negative
(and - to +) dipole end

Molecular Interactions

Non-Polar-Non-Polar (Bond)

Type Induced Dipole /
Induced Dipole

State gas

Strength Weak

Induced dipole : temporary
(short) interaction due to
movement of val. e^-



Particle Connection

Quick connection when
particles collide