

Matter exists in 4 phases.

1. Solid

2. Liquid

3. Gas

4. Plasma

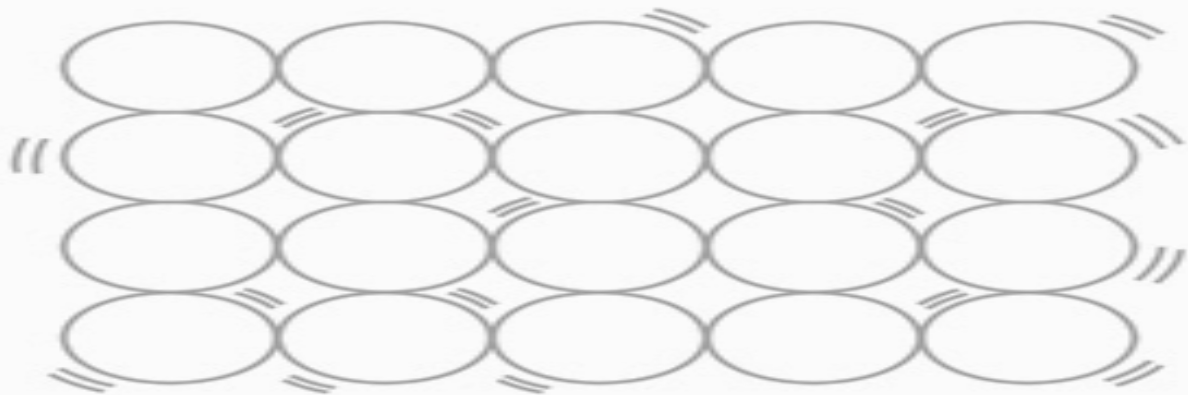


Picnic with Particles



Solids: a definite shape and definite volume

Particles are close together.



Solid

# Crystal

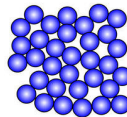
Regular Repeating  
Pattern of particles



# Solid

Amorphous Solid

Particles



Example: cotton candy



Lose their shapes  
under certain  
conditions. Slowly  
flow around one  
another.

# Amorphous

Liquids: No **definite** shape but definite **volume**

Particles are free to move, **viscosity**.

High Viscosity

 Low Viscosity

Gases: No **definite** shape and no definite **volume**.

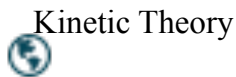
Gases can **diffuse** to fill its **container**.

Gases react differently with temperature and pressure. They form the Gas Laws

## Gas Laws:

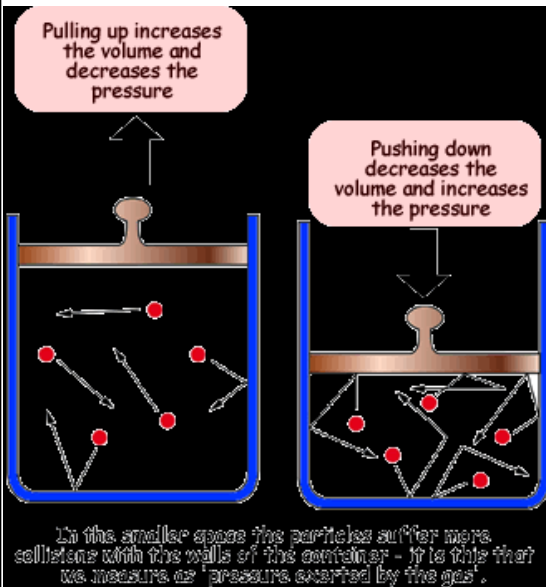
Boyle's Law: **Increase** the **pressure** of the gas, the volume will **decrease**.

Charles's Law: **Increase** the **temperature** and the volume will **increase**.

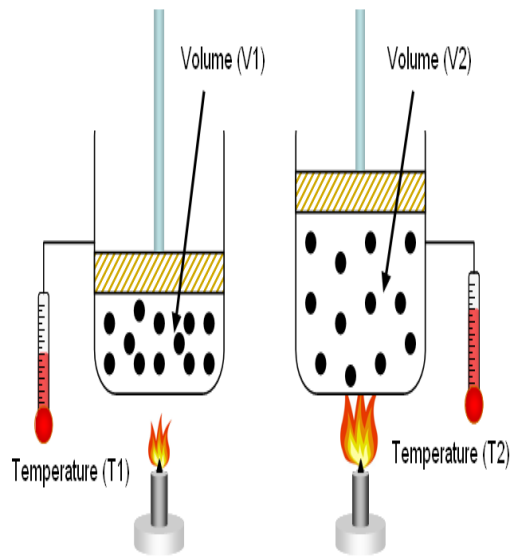


Avogadro's Law: the amount or number of particles, of a gas is equal to its volume. Equal volumes of gases at the same temperature and pressure contain equal numbers of particles.

# Boyle's Law



# Charle's Law



Thermal Expansion of the Oceans




Peeps in a Vacuum Chamber



Plasma:

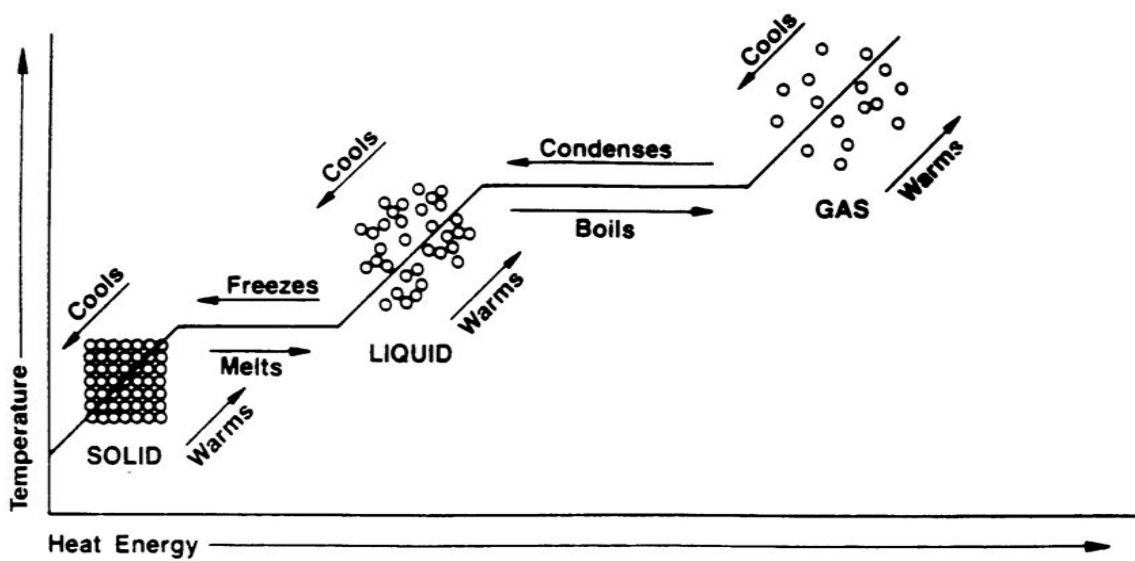
Extremely high in **Energy** and therefore dangerous to living **Things**.

Examples: **Stars, the sun**

 Plasma Video



# Phase Change Diagram



Physical Property: Characteristic that distinguishes **one type of matter** from another and can be observed without changing the **identity of the substance**.

Chemical Property: Describes how a **substance** changes into a new **substance**.

## Picnic with Particles



