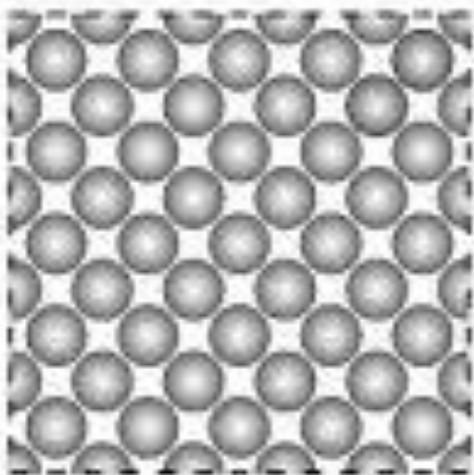
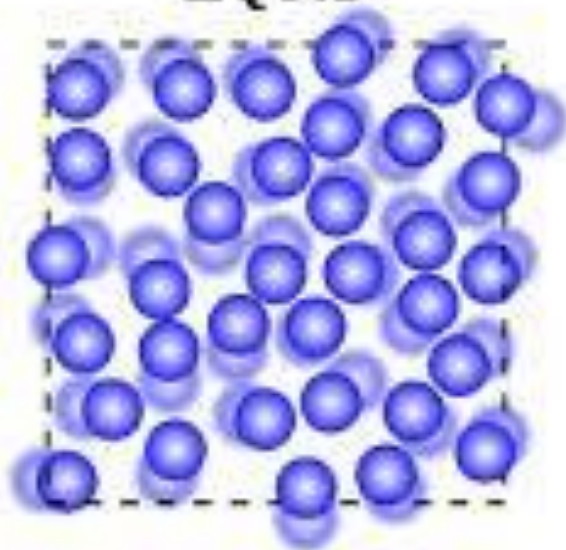


5.1 The Particle Model of Matter

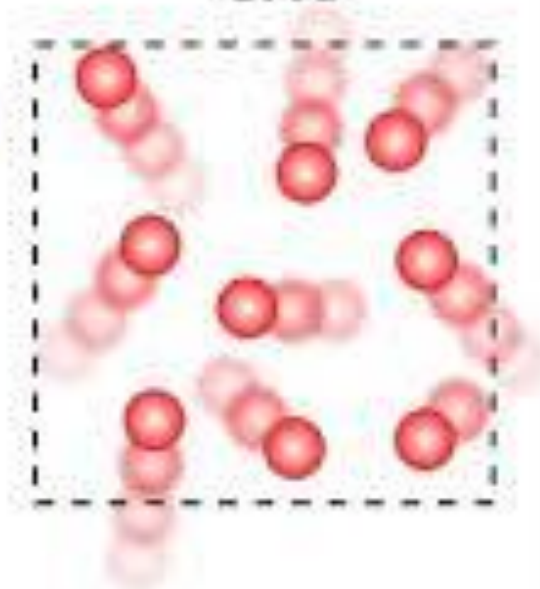
SOLID



LIQUID

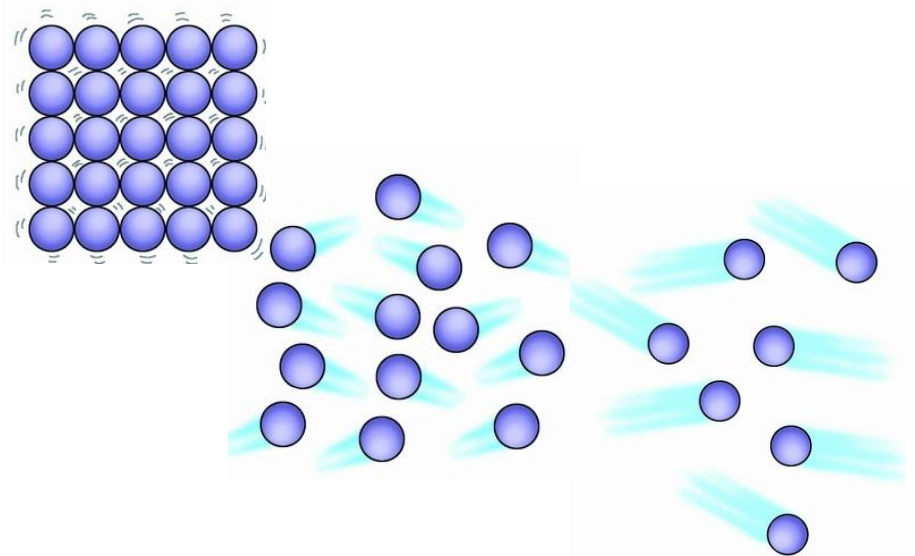
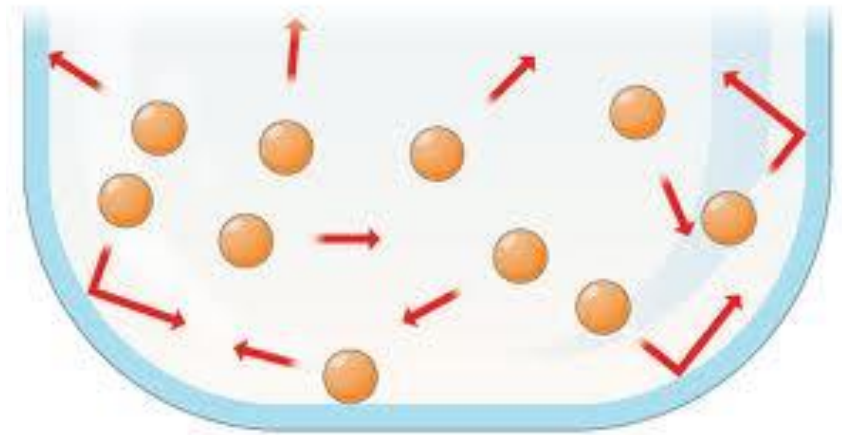


GAS

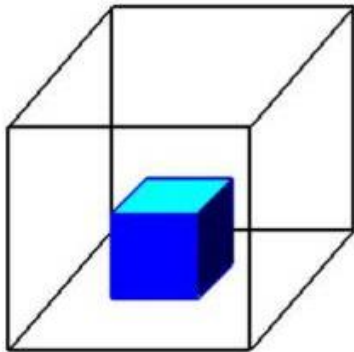


The Particle Model of Matter in 4 Parts

- 1. All matter is made up of tiny particles.
- 2. The particles of matter are always moving.
- 3. The particles have spaces between them.
- 4. Adding heat to matter makes particles move faster.



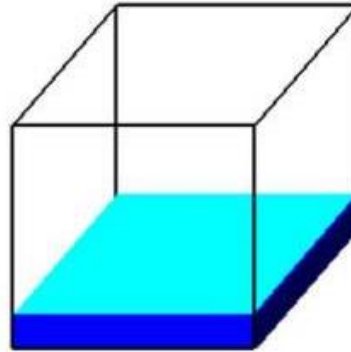
States of Matter



Solid

Holds Shape

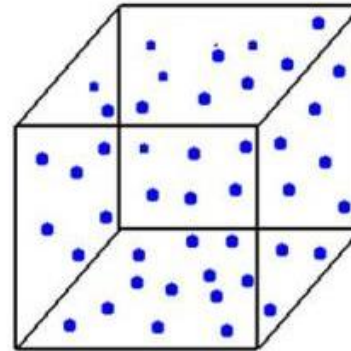
Fixed Volume



Liquid

Shape of Container
Free Surface

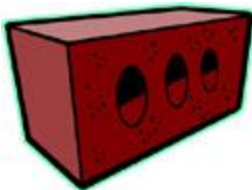
Fixed Volume



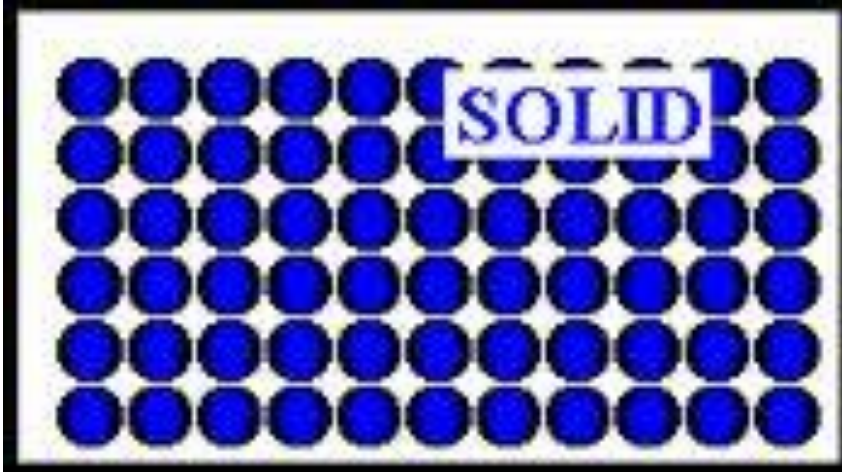
Gas

Shape of Container

Volume of Container

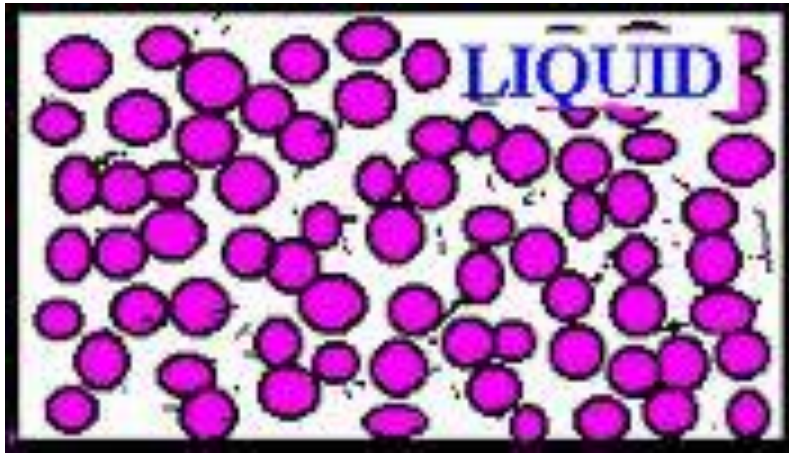


Solid

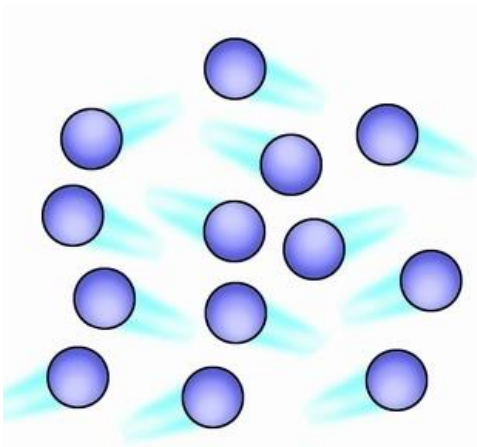


- The particles are held together strongly.
- The spaces between the particles are small.
- A solid has particles that barely move. They **vibrate back and forth.**

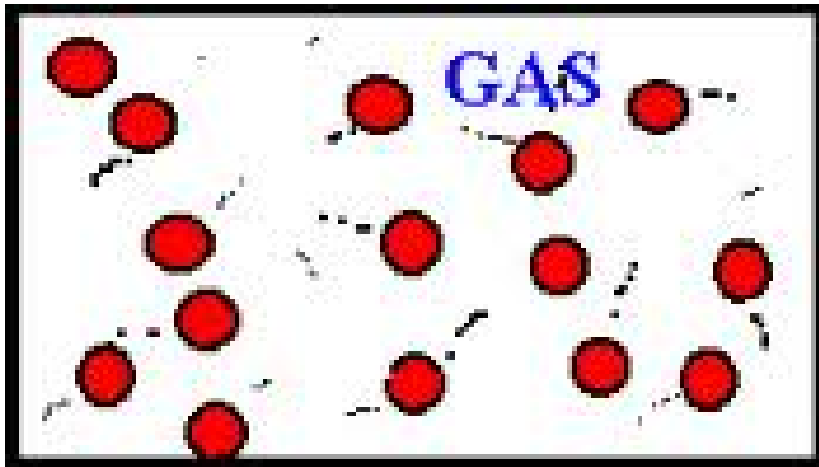
Liquid



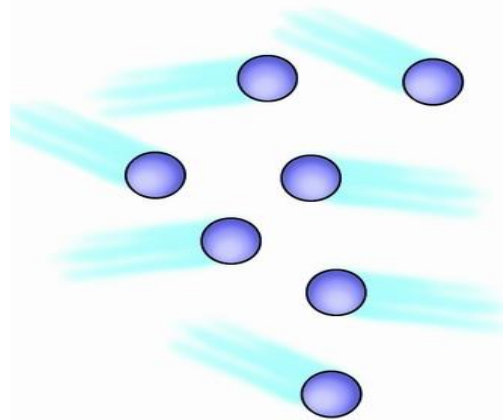
- As a solid is **heated**, the particles **move faster** and break away from their fixed positions forming a liquid.
- The particles in a liquid are separated by spaces large enough to allow particles to move. They **slide past each other**.



GAS



- When a **liquid absorbs heat**, particles move more quickly and break free of other particles and liquid changes to gas.
- A gas is mostly **empty space**, the particles move freely



Changes of State

- Melting
 - Freezing
 - Evaporation
 - Condensation
 - Sublimation
 - Deposition
- Solid $\rightarrow$ Liquid
 - Liquid $\rightarrow$ Solid
 - Liquid $\rightarrow$ Gas
 - Gas $\rightarrow$ Liquid
 - Solid $\rightarrow$ Gas
 - Gas $\rightarrow$ Solid

