

States of Matter



The Main 3...

SOLID

LIQUID

GAS

Properties...

SOLIDS

- Definite shape
- Definite volume
- Tightly packed
- Rigid
- Strong bonds

Properties...

Liquids

- NO definite shape (take shape of container)
- Definite volume
- Less tightly packed
- Fluid (able to flow)
- Medium strength bonds

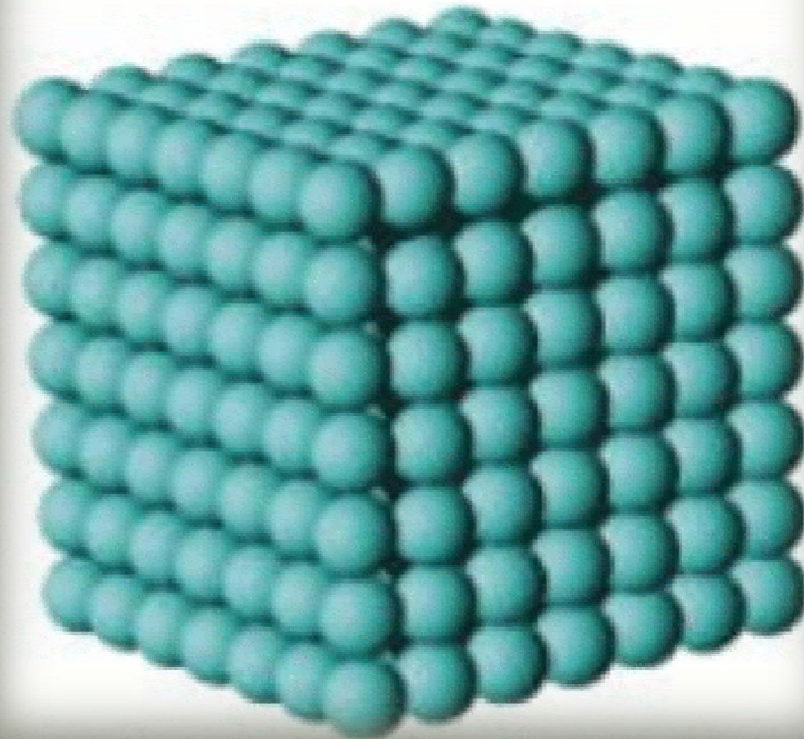
Properties...

Gases

- NO definite shape (only contained in air-tight containers)
- NO definite volume
- NOT packed together
- Fluid (able to flow)
- NO bonds

What do they look like?

Solid



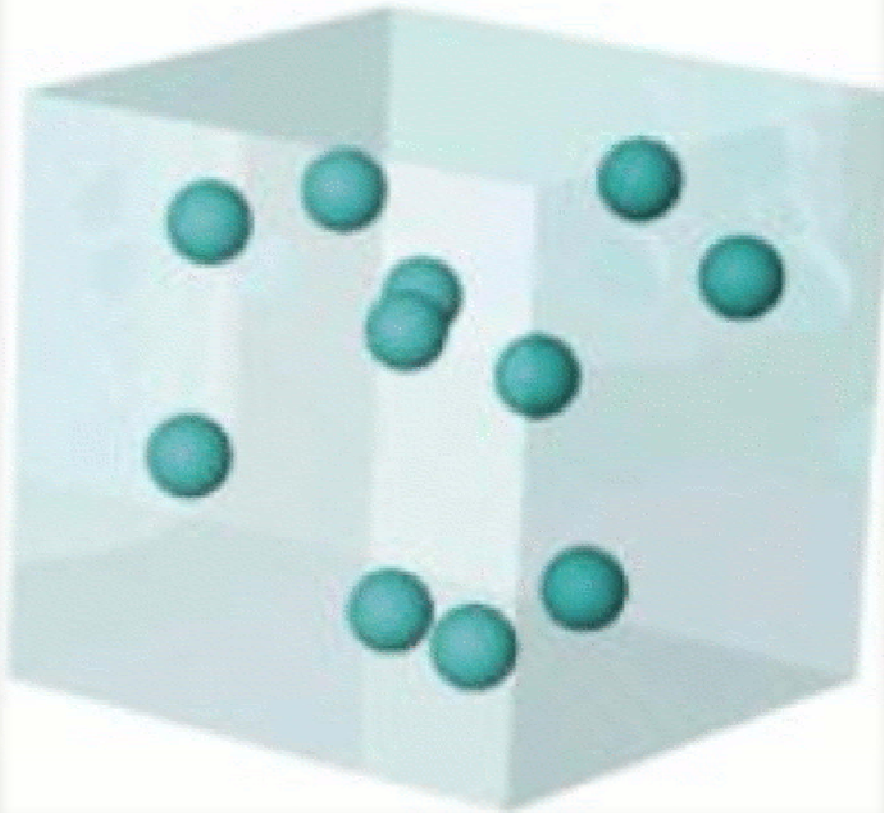
What do they look like?

Liquid

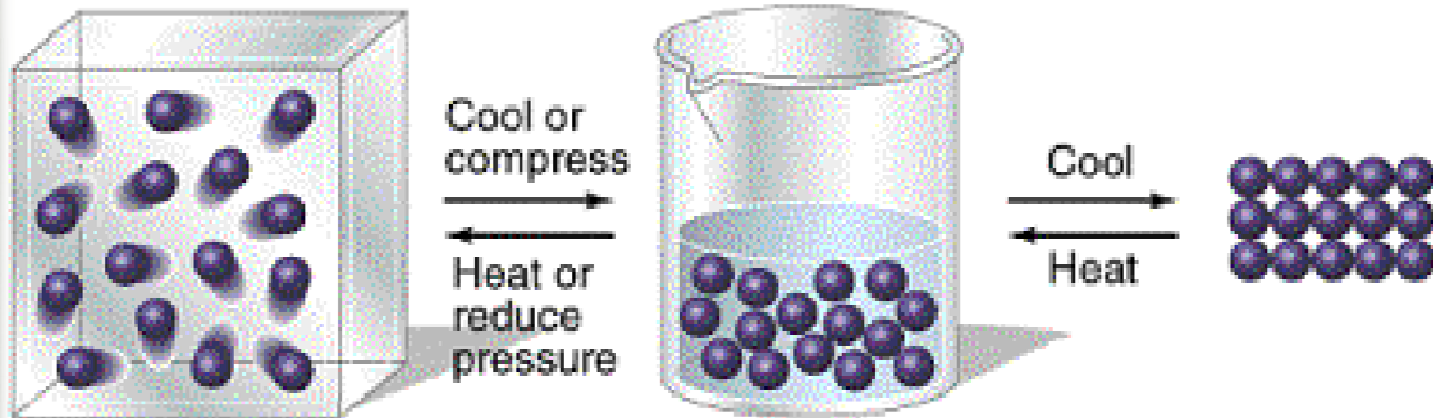


What do they look like?

Gas



Let's Compare...



Gas

Total disorder; much empty space; particles have complete freedom of motion; particles far apart.

Liquid

Disorder; particles or clusters of particles are free to move relative to each other; particles close together.

Crystalline solid

Ordered arrangement; particles are essentially in fixed positions; particles close together.

Question???

Which state of matter would be most dense?

SOLID... the most tightly packed!!!

Question???

Which state of matter would have the most energy?

GAS... so much energy they can break their
bonds!!!

Question???

Which state of matter would have the least energy?

SOLID... only enough energy to vibrate in place!!!

Definitions for FLASHCARDS

Molecules are nearly rigid with only enough energy to vibrate in place.

= SOLID

Definitions for FLASHCARDS

Molecules can move freely and randomly, but do not have enough energy to escape the attractive forces (bonds) between them.

= LIQUID

Definitions for FLASHCARDS

Molecules move rapidly and randomly with so much energy that they escape the attractive forces (bonds) between them.

= GAS