

Chemistry Test Notes

Phases of Matter, Physical VS. Chemical, Element,
Compound, and Mixture

Remediation Assignment:

Write **two** facts from each slide. OR answer the **questions** on the slides.

Once you have finished the notes,
watch the Chemistry video.

Write five facts from the video.

Matter

- Matter is anything that has mass and takes up space.
- Matter is made of tiny particles called atoms and molecules
- Molecules are always in motion
- The way the particles move and interact with each other helps to determine which state of matter
- 4 States of matter solid, liquid, gas, and plasma

Solids

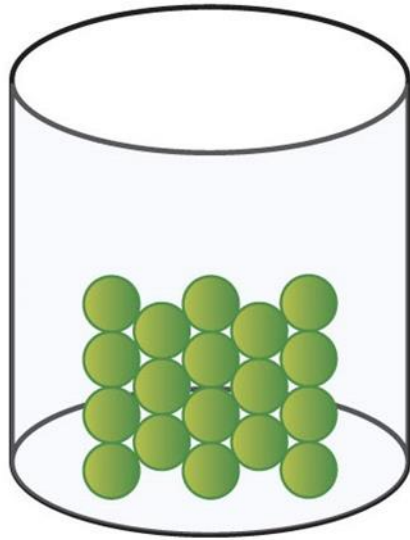
- Solids have definite shape and volume
- Particles are very close together and strongly attracted to each other
- Crystalline solids arrange in a pattern
- Amorphous solids do not have a pattern

Liquids

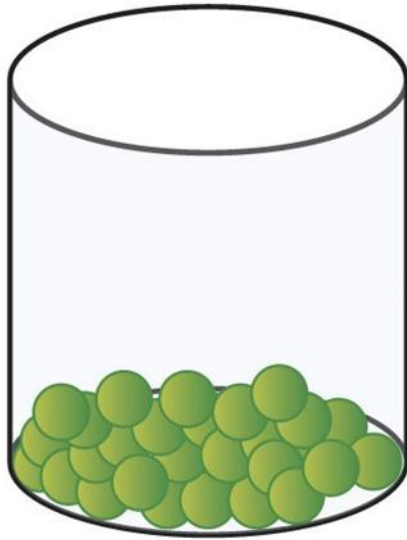
- Liquids change shape but has a definite volume
- Particles can slide past each other
- Surface tension- attracts the surface of the liquid and minimizes the area of the surface
- Viscosity- resistance to flow

Gases

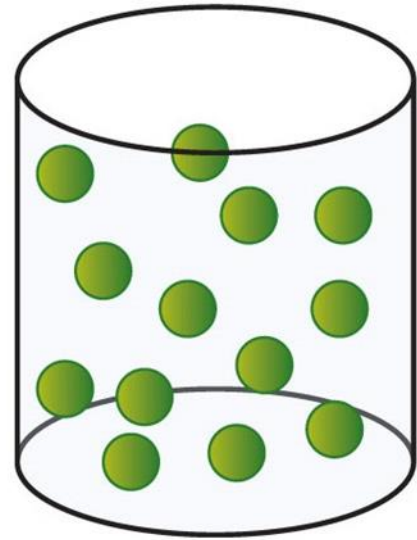
- Gases change both shape and volume
- Particles move quickly
- Little attraction between particles and can break away easily from one another
- The amount of empty space between particles can change.



Solid



Liquid



Gas

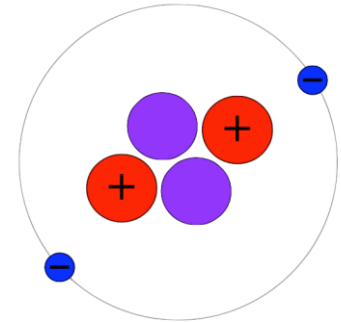
Solid atoms have the most energy, have a definite volume and shape.

Liquid atoms have more energy than a solid, have a definite volume, and an indefinite shape

Gas atoms have the most energy, have an indefinite volume and an indefinite shape.

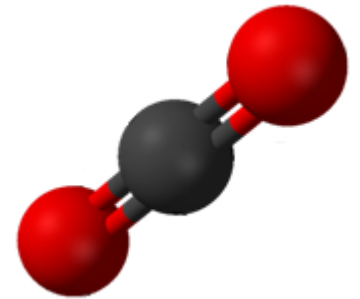
Elements

- Pure substances
- Made of only one type of atom
- Smallest part is an atom
- Found on the Periodic Table
- Example:
 - Neon
 - Helium
 - Gold



Compounds

- Made of elements
- Smallest part molecule
- Elements form in specific ratios
- Ex.
 - Water
 - Carbon Dioxide
 - Table salt



Properties

- Elements have unique physical and chemical properties
- Compounds have different properties than that of the elements which make it
 - Table salt NaCl: solid, edible, soluble
 - Na: solid, metal, explosive in water
 - Cl: gas, yellow, poisonous

Breaking Down

- Elements can not be broken down into simpler substances
- Compounds are Broken down by chemical changes
- Adding energy is one way to break down a compound
 - Apply heat
 - Apply electricity

Mixture

- The combination of two or more substances without a chemical reaction
- All components of a mixture retain their own chemical properties
- The components of a mixture do not have to be in a specific ratio
- Separating a mixture can be done through physical means
 - Distillation
 - Magnet
 - Centrifuge



Homogenous VS. Heterogeneous

- Homogenous mixtures are uniform (can not see pieces in the mixture)
 - Example: Koolaide
- Heterogeneous mixtures are not uniform (CAN see pieces in the mixture)
 - Example: Pizza

Types of Mixtures

1. Solutions are Homogenous
 - one substance dissolves into another
 - Example: sugar water
2. Suspensions are Heterogeneous
 - particles do not dissolve and separate out
 - Example: chicken noodle soup
3. Colloids are Homogenous
 - particles do not dissolve and do not separate out
 - Example: Jello

• Match the following descriptions to the correct substance picture:

- 1. Compound
- 2. Mixture
- 3. Element
- 4. Molecules of an element

