

CHEMISTRY

THE STUDY OF...

CANNOT be separated by
PHYSICAL means

MATTER

- Anything with mass and volume
- Can undergo physical or chemical change
- 3 states (phases) of matter:
 - Solid, liquid, gas

CAN be separated by
PHYSICAL means

PURE SUBSTANCE

- Only way to separate into smaller units is by BREAKING CHEMICAL BONDS (I.E. UNDERGO A CHEMICAL CHANGE)
- Has a specific chemical identity (formula)

MIXTURE

- Can be PHYSICALLY separated into distinct components (i.e. the pure substances of which it is made)
- Each substance (component) retains its chemical identity and properties

ELEMENT

- Contains only ONE type of atom
- Examples:
 - Sodium (Na)
 - Neon (Ne)

COMPOUND

- Contains TWO or MORE DIFFERENT types of atoms CHEMICALLY BONDED
- Examples:
 - Sodium chloride (NaCl)
 - Water (H₂O)

HOMOGENEOUS

- Uniform throughout
- Also known as SOLUTION
- Examples:
 - Salt water
 - Atmospheric air

HETEROGENEOUS

- Non-uniform distribution
- Examples:
 - Trail mix
 - Italian dressing
 - Soil

ATOM

ELECTRON

NUCLEUS

PROTON

NEUTRON

IONIC

- Made of IONIC bonds
- METAL bonds with NONMETAL through transfer of electrons
- Example: NaCl

MOLECULAR

- Made of COVALENT bonds
- NONMETAL bonds with NONMETAL through sharing of electrons
- Example: H₂O

REMEMBER...

**YOU HAVE MASS
YOU HAVE VOLUME...
YOU MATTER!**