Name: _____ Date: _____ Per: _____

Classification of Matter: Concept Map

Chemistry
Study of matter and changes it goes through

Matter
Has mass, takes up space/volume

Separated?
- NO → Pure Substances
- YES → Mixture

Pure Substances
Matter has same fixed composition, uniform

Decompose?
- NO → Element
- YES → Compound

Element
- made of one type of atom
- cannot be decomposed/separated

Examples
- H: Hydrogen
- Cl: Chlorine
- Na: Sodium

Compound
- made of 2+ elements
- can be decomposed chemically into elements
- diff prop than elements

Examples
- Hydrogen Chloride: HCl
- Salt: NaCl
- Sugar: $C_6H_{12}O_6$

Mixture
- 2+ materials/substances combining
- can be separated chemically or physically

Uniform?
- YES → Homogeneous Mixtures
- NO → Heterogeneous Mixtures

Homogeneous Mixtures
- uniform in composition
- hard to separate
- also known as solution

Examples
- Air
- Sugar water solution

Made of 2 parts

Heterogeneous Mixtures
- not uniform in composition
- separate easily
- individual substances remain distinct

Examples
- Granite
- Wood
- blood

Solute
- Dissolved material, dissolved in solution

Example

Salt (s)	--dissolving in->
Acetic acid (l)	--dissolving in->
CO2(g) and O2(g)	--dissolving in->
Copper (s)	--dissolving in->

Solvent
- Dissolving material, dissolves solute to form soln

Example

Water (l)
Water (l)
Nitrogen(g) in air
Silver(s),alloy in sterling silver