

Name: _____

Date: _____

Mixtures and Pure Substances - Notes

Mixtures

- A mixture is a _____ of two or more _____ that are not chemically _____.
- Mixtures can be _____, such as mechanical mixtures and suspensions, or _____, such as solutions and colloids.

Mechanical Mixtures

- Mechanical mixtures are classified as _____, meaning the particles are not evenly distributed or combined.
- The different substances that make up the mixture can be _____ and separated by _____.
- Examples include: _____

Suspensions

- Like mechanical mixtures, suspensions are _____.
- The different substances that make up the mixture will not _____, they are _____.
- Particles are so large that they _____ unless the mixture is constantly _____.
- Examples include: _____

Solutions

- Classified as _____, meaning the particles are evenly distributed throughout the mixture.
- These are formed when one or more _____ dissolve into a _____.
- Examples include: _____

Colloids

- Like solutions, they are classified as _____.
- Particles are spread throughout, but are not _____ enough to settle out.
- Particles can't be _____ by a filter.
- Colloids often appear _____.
- Examples include: _____

Pure Substances

- Pure substances contain only _____ type of _____.
- Can be separated into _____ and _____.

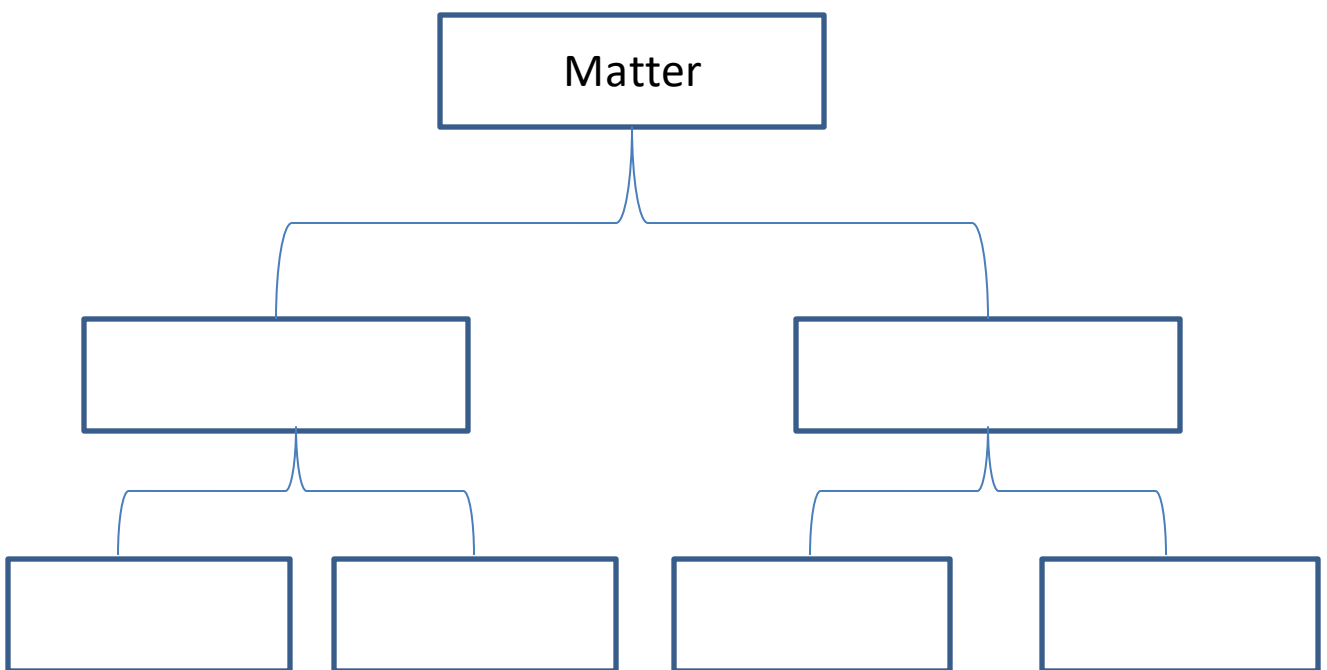
Elements

- Elements are _____ substances made of only one type of _____.
- Can not be _____ into simpler substances under _____ lab conditions.
- Examples include: _____

Compounds

- Compounds are _____ made of atoms of two or more elements that are _____ combined.
- Compounds are _____ and different from the _____ they contain.
- Examples include: _____

Fill in the flow chart below with the words from the word bank.



Homogeneous

Pure Substance

Compound

Heterogeneous

Element

Mixture

Name: KEY

Mixtures and Pure Substances – Notes KEY

Mixtures

- A mixture is a **combination** of two or more **substances** that are not chemically **combines**.
- Mixtures can be **heterogeneous**, such as mechanical mixtures and suspensions, or **homogeneous**, such as solutions and colloids.

Mechanical Mixtures

- Mechanical mixtures are classified as **heterogeneous**, meaning the particles are not evenly distributed or combined.
- The different substances that make up the mixture can be **seen** and separated by **hand**.
- Examples include: **pizza, trail mix, etc.**

Suspensions

- Like mechanical mixtures, suspensions are **heterogeneous**.
- The different substances that make up the mixture will not **dissolve**, they are **suspended**.
- Particles are so large that they **settle out** unless the mixture is constantly **stirred**.
- Examples include: **snow globe, salad dressing, etc.**

Solutions

- Classified as **homogeneous**, meaning the particles are evenly distributed throughout the mixture.
- These are formed when one or more **solutes** dissolve into a **solvent**.
- Examples include: **sugar water, iced tea (made with crystals), etc.**

Colloids

- Like solutions, they are classified as **homogeneous**.
- Particles are spread throughout, but are not **heavy** enough to settle out.
- Particles can't be **separated** by a filter.
- Colloids often appear **cloudy**.
- Examples include: **milk, paint, pudding, etc.**

Pure Substances

- Pure substances contain only **one** type of **particle**.
- Can be separated into **elements** and **compounds**.

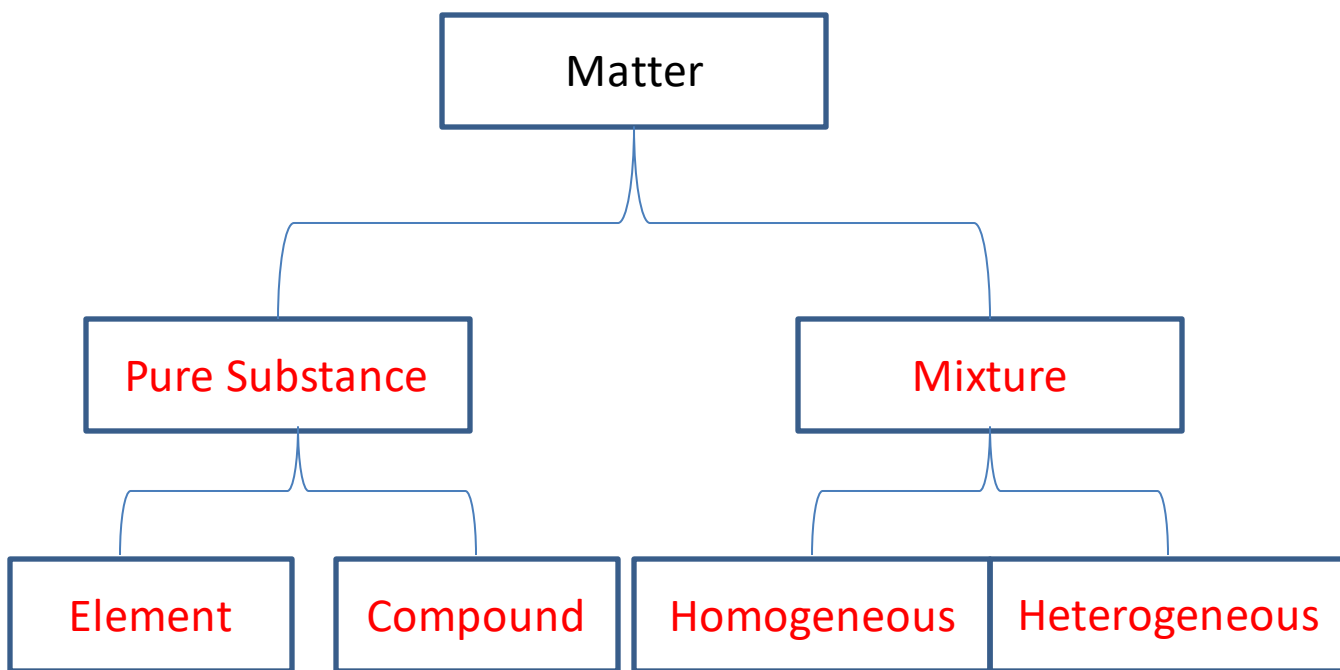
Elements

- Elements are **pure** substances made of only one type of **atom**.
- Can not be **broken down** into simpler substances under **normal** lab conditions.
- Examples include: **gold, mercury, hydrogen, etc.**

Compounds

- Compounds are **pure substances** made of atoms of two or more elements that are **chemically** combined.
- Compounds are **unique** and different from the **elements** they contain.
- Examples include: **water, chlorine, carbon dioxide, etc.**

Fill in the flow chart below with the words from the word bank.



| | | |
|---------------|----------------|----------|
| Homogeneous | Pure Substance | Compound |
| Heterogeneous | Element | Mixture |