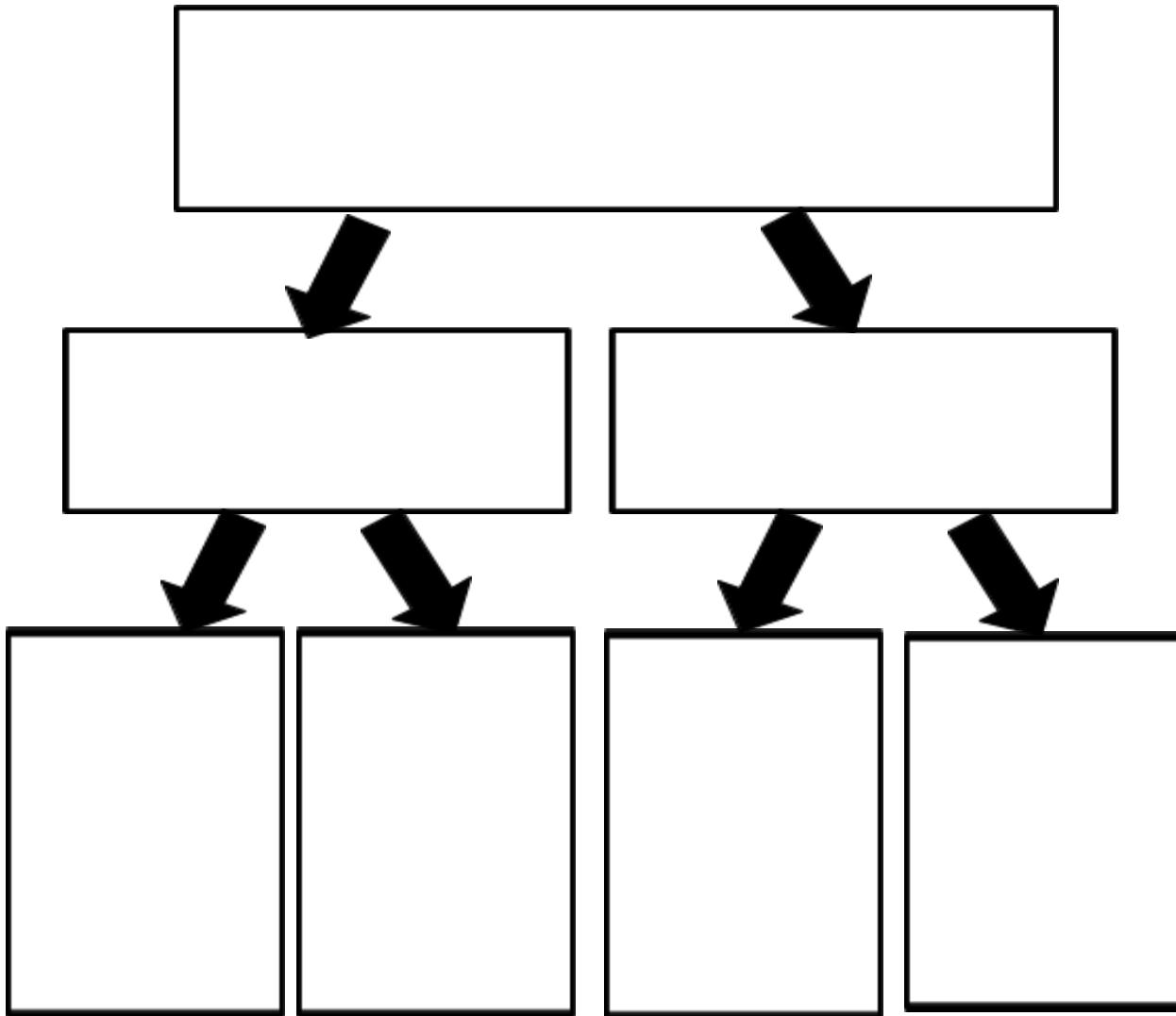


Elements, Compounds, & Mixtures Reference Sheet

1. **Pure Substance** – a sample of matter that has definite chemical & physical properties.
2. **Element** – pure substance that cannot be separated into simpler substance by physical or chemical means.
3. **Atoms** - The smallest unit of an element that maintains the properties of that element.
4. **Molecules** – composed of two or more elements that are joined by chemical bonds
 - a. Elements can be the same: Ex: H_2 , O_2 , N_2
 - b. Elements can be different: Ex: $C_6H_{12}O_6$, H_2O
5. **Compounds** – pure substance composed of two or more different elements joined by chemical bonds.
 - a. Made of elements in a specific ratio that is always the same
 - i. Water is H_2O – It will always will have 2 hydrogen atoms and 1 oxygen atom joined together
 - b. Can only be separated by chemical means, not physically
 - c. Have their own physical and chemical properties
 - d. Chemical and physical properties are different than the elements they are made from
 - i. Example H_2O Hydrogen is a gas Oxygen is a gas Water is a liquid at room temperature
6. **Mixtures** – a combination of two or more pure substances that are not chemically combined. Substances held together by physical forces, not chemical
 - a. No chemical change takes place
 - b. Each item retains its properties in the mixture
 - c. They can be separated physically
7. **Types of Mixtures** – There are two main categories
 - a. **Homogeneous** – molecules are mixed up in an even distribution
 - i. **Solutions** – a mixture that appears to be a single substance
 - ii. **Solute** – the substance being dissolved
 - iii. **Solvent** – the substance in which the solute is being dissolved Water is considered a universal solvent
 - iv. Do not settle out over time
 - b. **Heterogeneous** - molecules are not mixed up in an even distribution
 - i. **Suspensions** – a mixture in which particles will eventually settle out

Write the answers to the activity in the spaces below:

Elements	Compounds	Mixtures

Elements, Compounds, & Mixtures Reference Sheet**Word Bank - Place the following words into the flowchart above**

Element	Homogeneous	Mixture	Matter	Compound
Pure Substance	Heterogeneous	H_2O	O_2	Lemonade
Snow Globe	Gelatin	CO_2	Kool-Aid	H_2