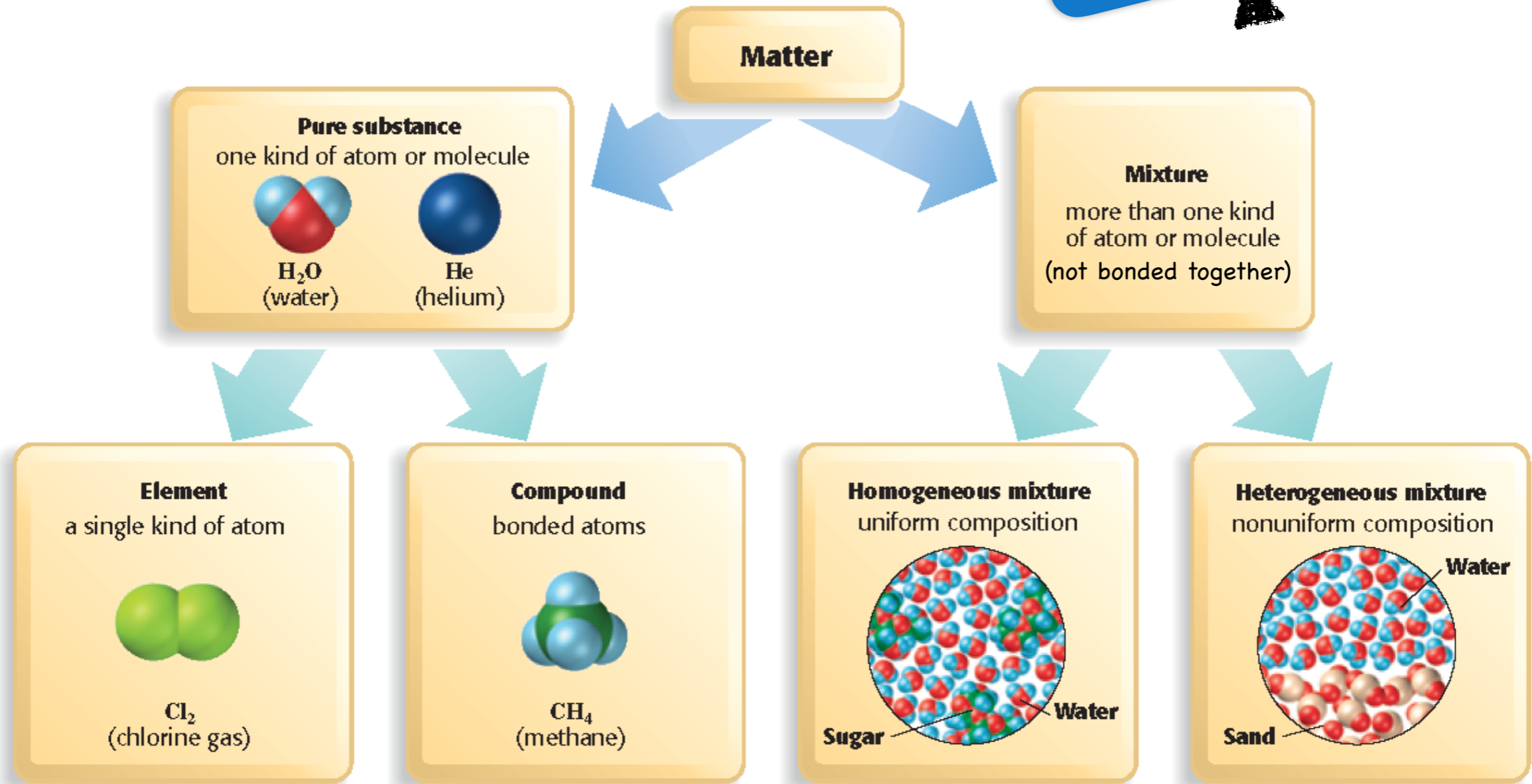


Classifying Matter

- **Volume** is the space an object occupies.
- **Mass** is a measure of the amount of matter.
- **Matter** is anything that has mass and takes up space.

Classifying Matter

Write this!



Types of Matter

A **mixture** is a blend of two or more kinds of matter, each of which retains its own identity and properties.

- Different types of matter are not bonded together, just sharing the same space like the different gases found in air (N_2 , O_2 , CO_2)
- Mixtures can be separated by physical means:
 - Filtration
 - Solubility
 - Evaporation
 - Chromatography

Types of Mixtures

1. **Homogeneous mixtures** are called **solutions** and are uniform in composition (salt-water solution)
2. **Heterogeneous mixtures** are not uniform throughout (sand)

Don't write this!



Homogeneous

Iced tea—uniform distribution of components; components cannot be filtered out and will not settle out upon standing

Stainless steel—uniform distribution of components

Maple syrup—uniform distribution of components; components cannot be filtered out and will not settle out upon standing

Heterogeneous

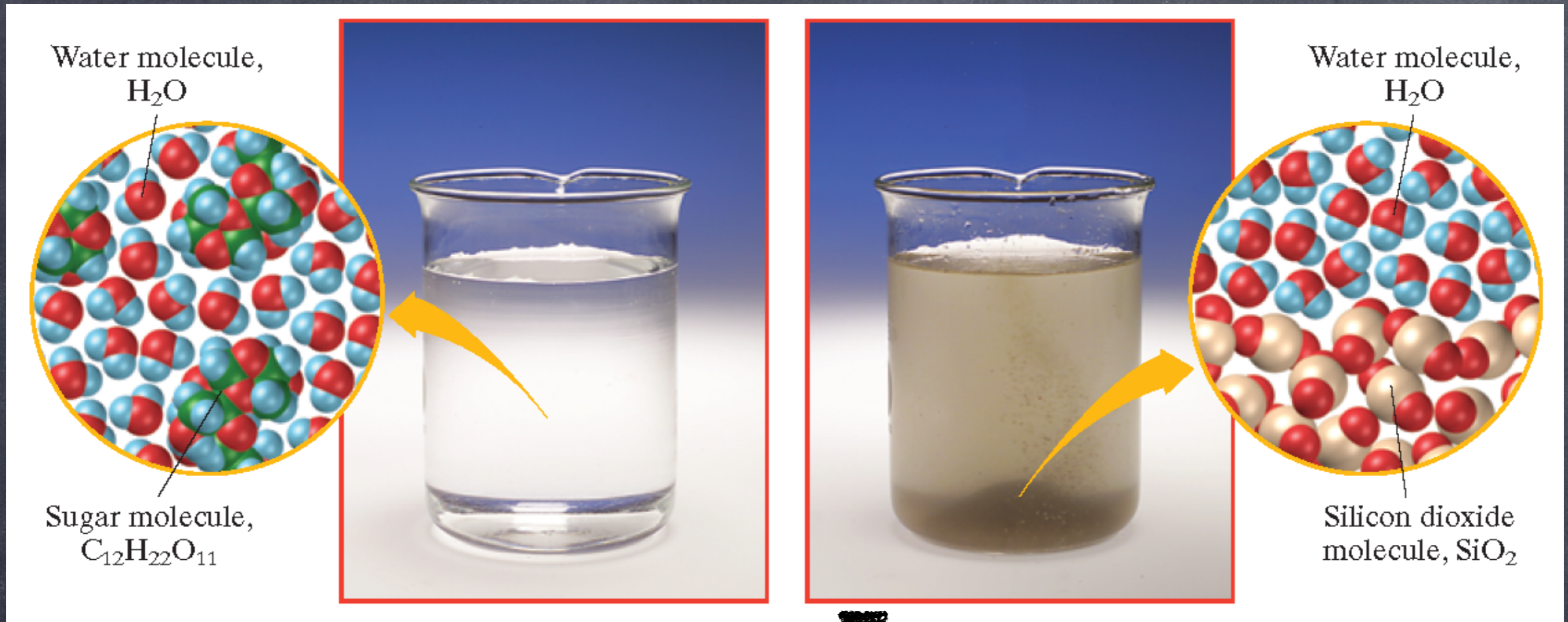
Orange juice or tomato juice—uneven distribution of components; settles out upon standing

Chocolate chip pecan cookie—uneven distribution of components

Granite—uneven distribution of components

Salad—uneven distribution of components; can be easily separated by physical means

Examples of Mixtures



Homogeneous

Heterogeneous

Don't write this!

Types of Matter

Pure substance - matter with a fixed composition,
NOT a mixture
-Cannot be separated by physical means

Types of Pure Substances

1. **Elements** - composed of only **1 type of atom** (1 box on the periodic table)
 - cannot be broken down into simpler substances
 - Examples: Na, O₂, Mg

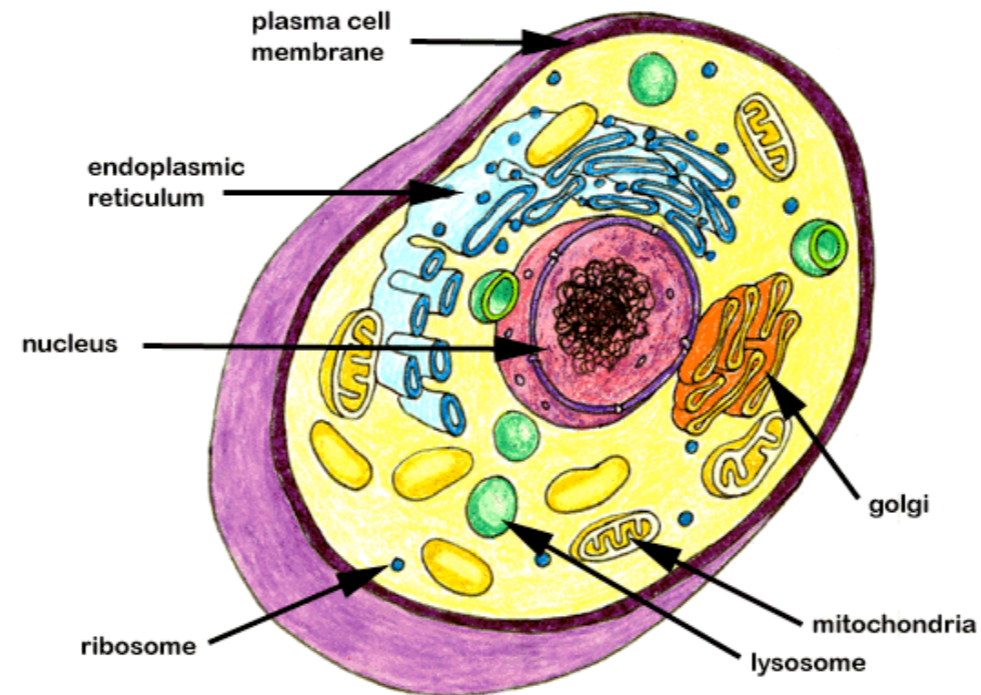
2. **Compounds** - composed of **2 or more atoms chemically bonded together**
 - can be broken down into simpler substances through chemical changes
 - Examples: H₂O, NaCl

Matter Classification Practice

Mixture		Pure Substance	
Heterogenous	Homogeneous	Element	Compound

**To be completed in class!
(one word will fill each box)**

How would you classify...blood?



It's a ... heterogeneous mixture!