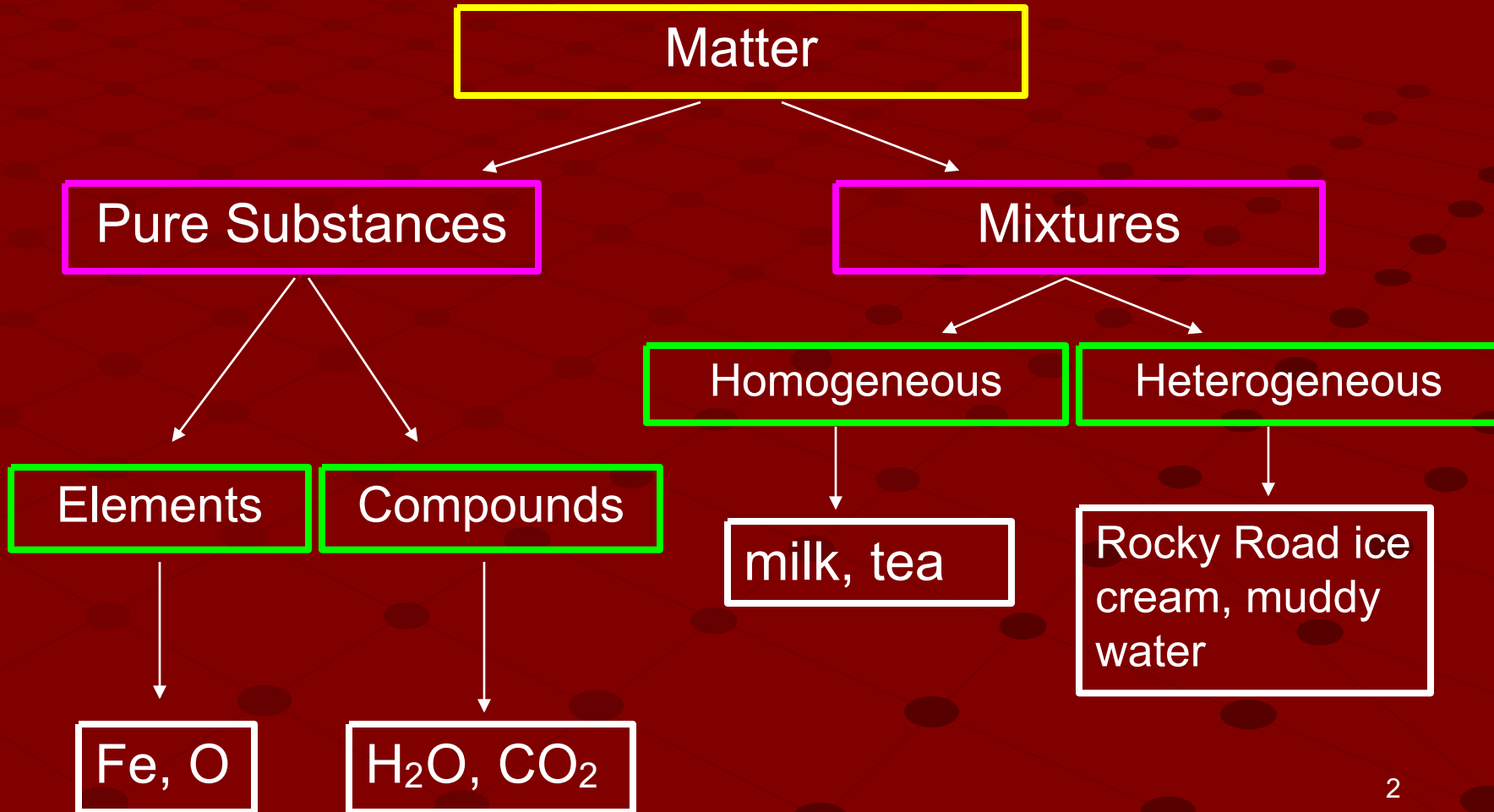




Classifying Matter

Classifying Matter



Pure Substances

Substances which have unique, identifying properties are called pure substances.

n There are two types of pure substances:

Elements

Compounds

What is the difference between an element and a compound?

Element

- n An element is a pure substance which is composed of only **one type of atom**.
- n All of the elements are listed on the periodic table.

Compound

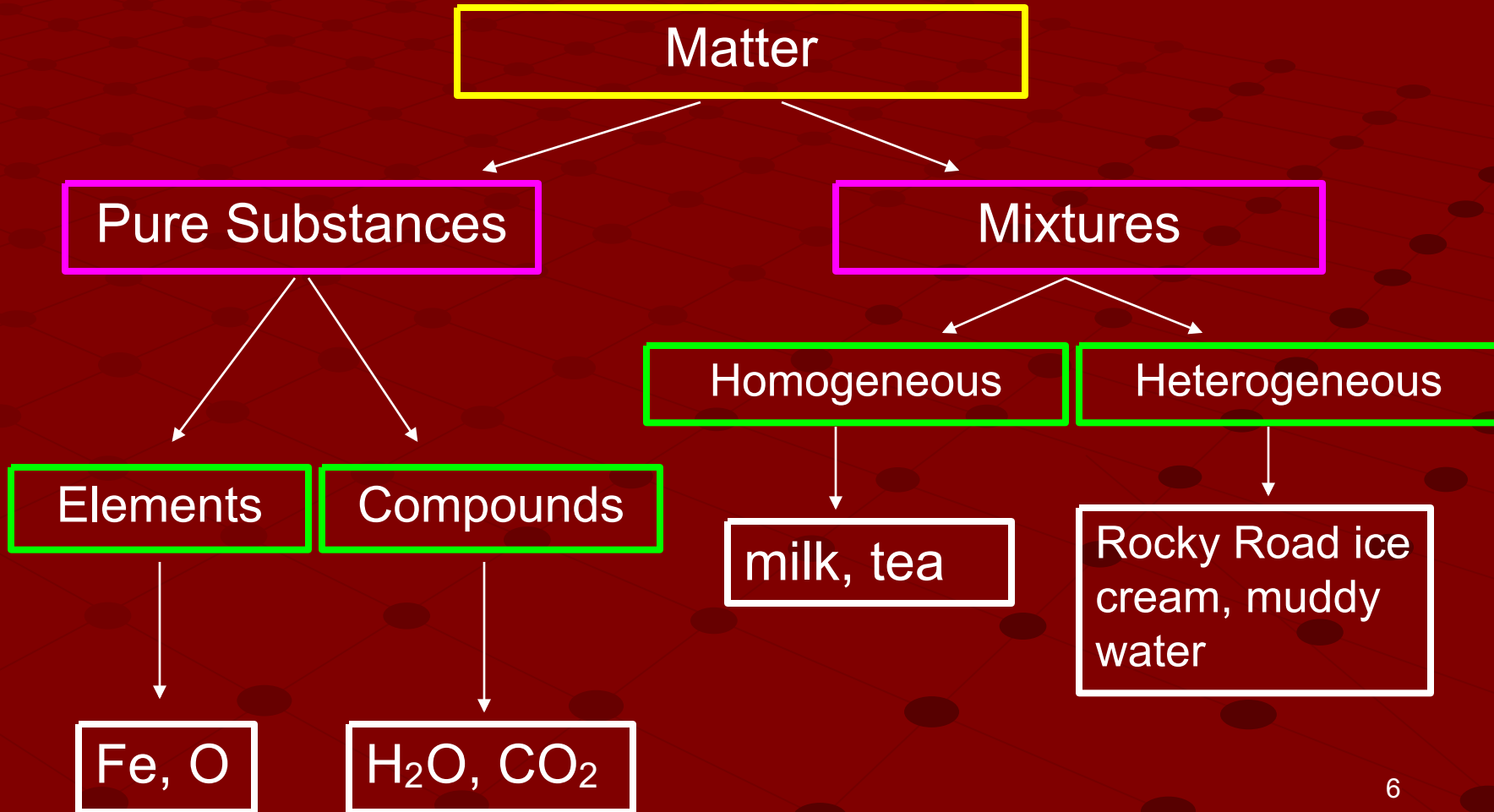
- n A compound is a pure substance which is composed of **more than one type of element**.
- n All compounds are molecules, but not all molecules are compounds. (example – O_2 , H_2)

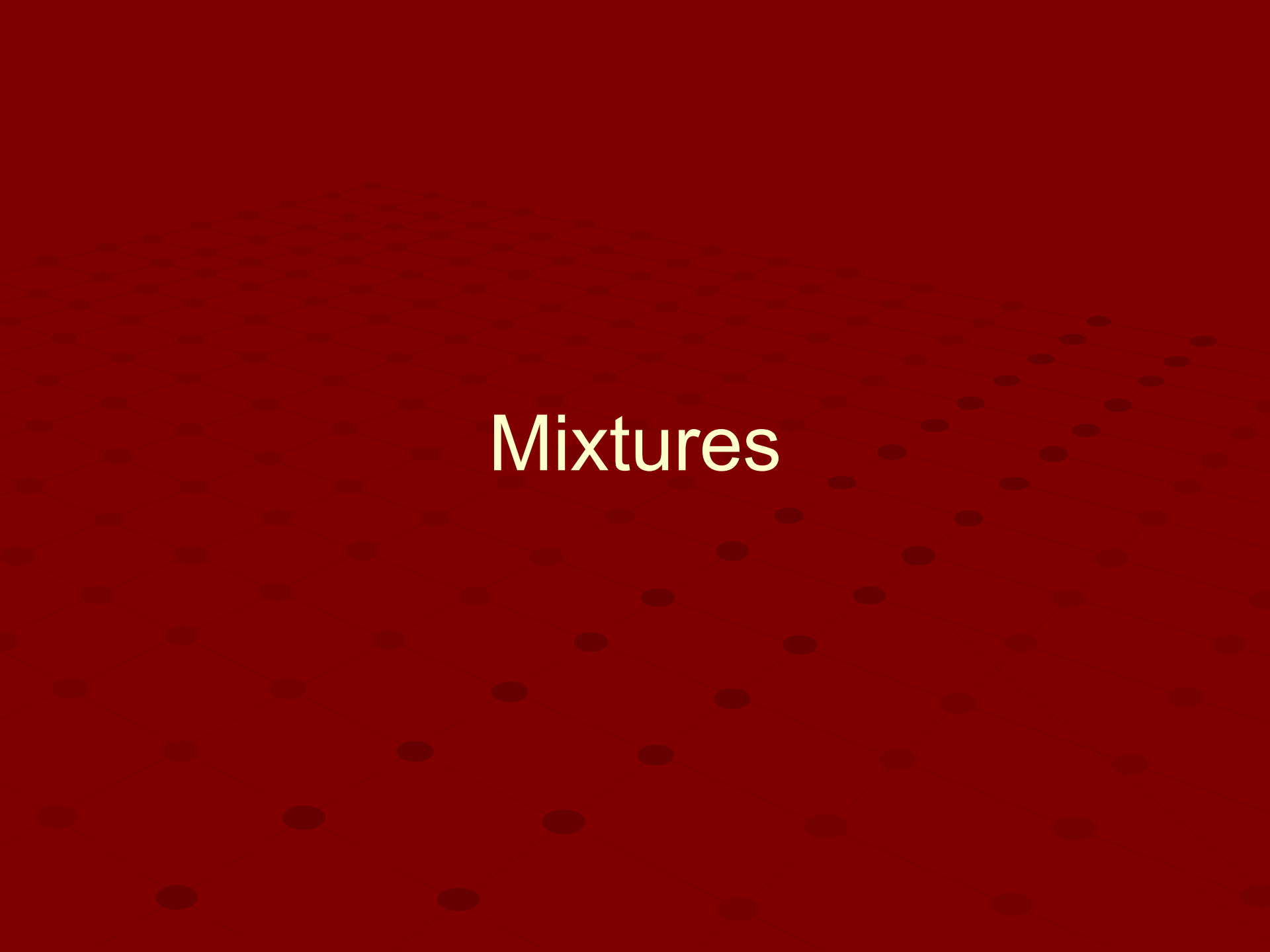
What are some examples of elements and compounds?

Some examples of elements include oxygen (O), carbon (C), iron (Fe), gold(Au), and fluorine (F).

Some examples of compounds include water (H₂O), sugar (C₁₂H₂₂O₁₁), rust(Fe₂O₃), and salt (NaCl).

Classifying Matter



The background is a solid red color. Overlaid on this is a white grid of thin lines forming a diamond or rhombus pattern. A series of white dots are placed at the intersections of these lines, forming a diagonal line that runs from the bottom-left towards the top-right.

Mixtures

A mixture is a combination of two or more substances where there is no chemical combination or reaction.

Mixtures combine physically in no specific proportions.

They just mix.

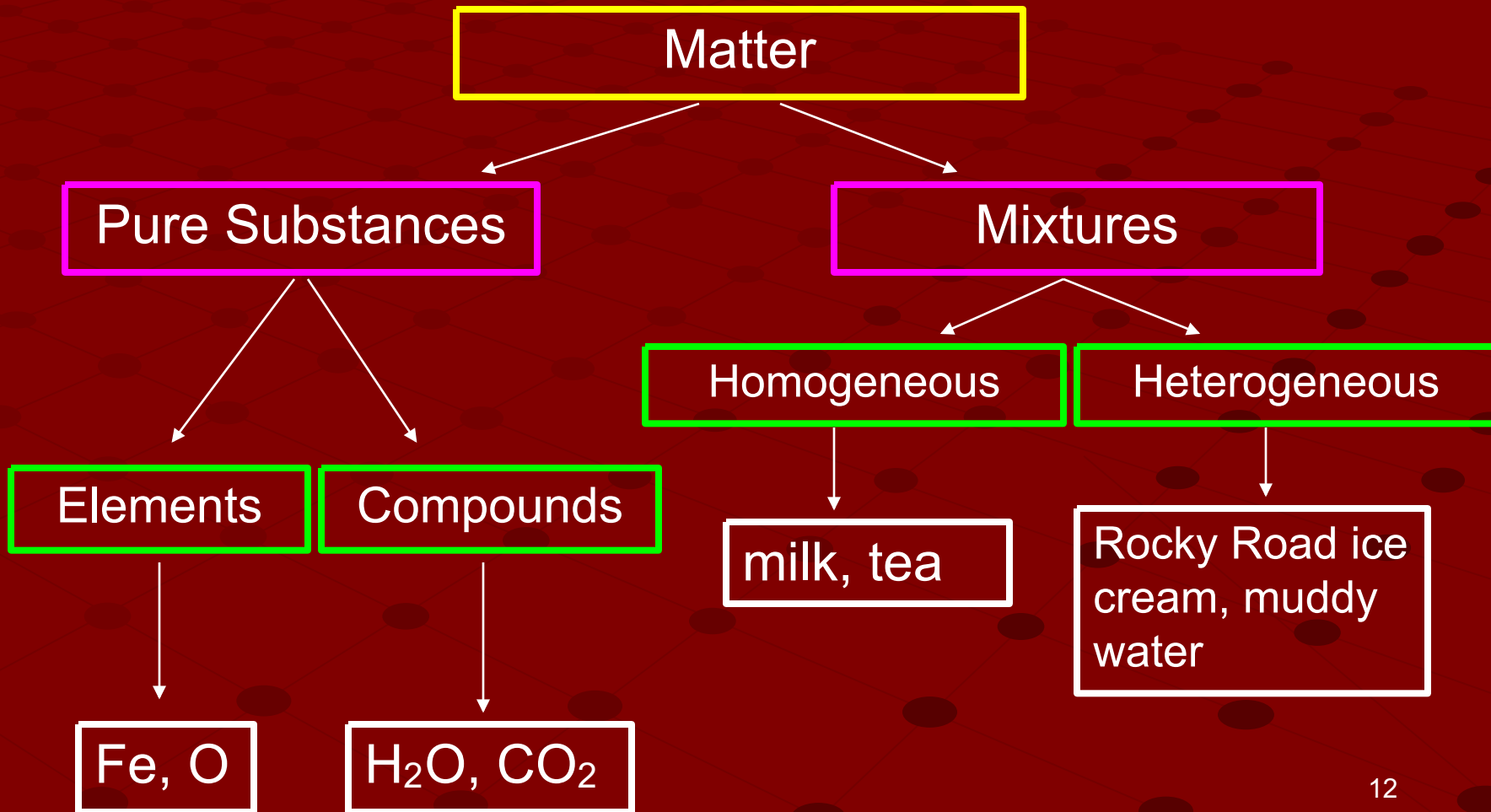
Mixtures do not have a definite composition.

- You can have sweet tea that has a lot of sugar or sweet tea with less sugar.

When you create a mixture, there are no new substances formed. Each part of a mixture keeps its own properties.

Mixtures can be heterogeneous or homogeneous.

Classifying Matter



Heterogeneous mixtures are those where the substances are not distributed evenly. They usually involve a mixture of a solid in a solid.

A mixture of stones in soil is an example of a heterogeneous mixture.

Heterogeneous Mixtures:

- salsa
- water with ice cubes in it
- chicken noodle soup

Homogeneous mixtures are those where the materials are evenly distributed throughout.

Homogenized milk is an example.

Homogeneous Mixtures:

salty water (where the salt is completely dissolved)

brewed tea or coffee

soapy water

wine

You can separate a simple mixture by physical means.
No chemical reaction is needed.

TEST OUR KNOWLEDGE

Answers

ACD

AD

C

EF

H

G

B