EXERCISES

Describe this concepts:

Element

Compound

Solution

Mixture

EXERCISE

Classify each of the following substances as: an element, a compound, a solution, or a heterogeneous mixture.

Sand	Salt	Pure Water	Soil
Soda	Pure Air	Carbon Dioxide	Gold
Bronze	Oxygen	Salad Dressing	Water

EXERCISE

Classify each of the following substances as: an element, a compound, a solution, or a heterogeneous mixture.

Raisin Bran	Silver
Lithium Carbonate	Apple Pie
Iced Tea(with powder well mixed)	Potassium
Carbon Monoxide	Calcium Nitrate

EXERCISE

In the spaces provided, classify each of the following substances as: an element, a compound, a solution, or a heterogeneous mixture.

Koolaid	Sugar water
Chocolate Milk	Salt water
Coffee with milk	A cup of tea, with tea leaves floating in it
Helium	Chocolatechip Cookie

EXERCISE

In the spaces provided, classify each of the following substances as: an element, a compound, a solution, or a heterogeneous mixture.

Se	Lead
Calcium	Gasoline
Vegetable Soup	Neon
Pure Air	Mud

EXERCISE

In the spaces provided, classify each of the following substances as: an element, a compound, a solution, or a heterogeneous mixture.

Calcium	Gasoline
iron	sugar
Steel	Carbon
Copper	Milk

EXERCISE

Connect the terms of the two columns

A. Granite	1. Pure substance
B. Water	2. Heterogeneous rock
C. Gold	3. Solution
D. Salt with water	4. Liquid metal to room temperature
E. Water	5. Solid metal to room temperature

EXERCISE

Is the water that we drink an absolutely pure substance?

A. No, because it is a heterogenous substance
B. It is not pure, it has mineral salts dissolved
C. Otherwise, we cannot drink it
D. Of course, it is distilled water

EXERCISE

What is the rock called “granite”?

1. A pure substance and heterogeneous
2. A homogeneous rock
3. A pure substance
4. A heterogeneous solid mixture

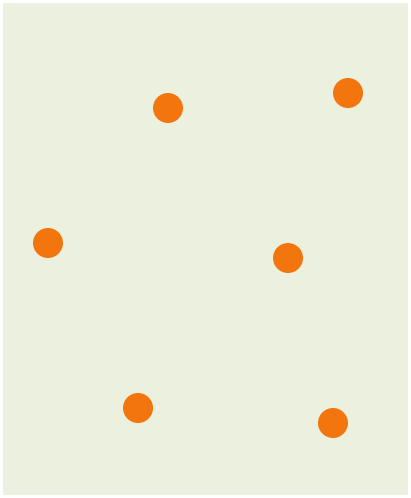
EXERCISE

Classify the following products as: simple substance, compound, dissolution or mix heterogeneous

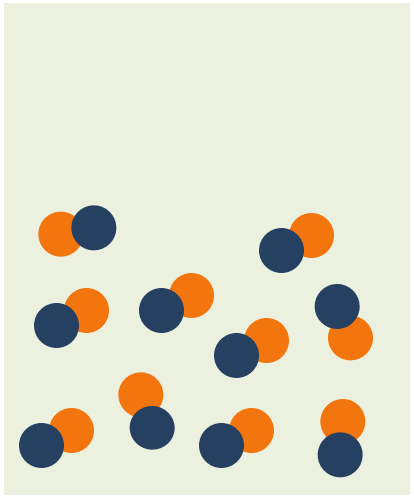
PRODUCTS	SIMPLE SUBSTANCE, COMPOUND, DISSOLUTION OR MIX HETEROGENEOUS
Wine	
Vinegar	
Soft drink	
Gasoline	
Alcohol 96 %	
Marmalade	
Milk	
Bleach	
Bread	
Blood	
Oil	
Iron	
Drinkable water	
Granite	

EXERCISE

Classify the following systems as: simple substance, compound substance, homogeneous mixtures or heterogeneous mixtures



SYSTEM A



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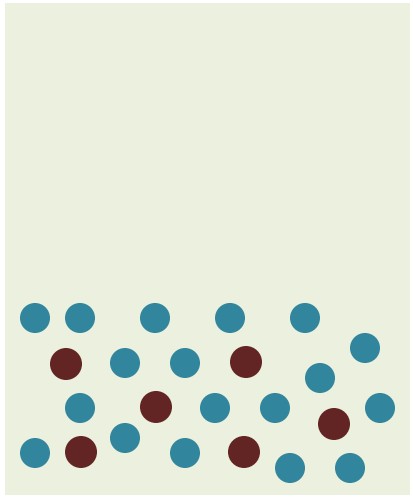

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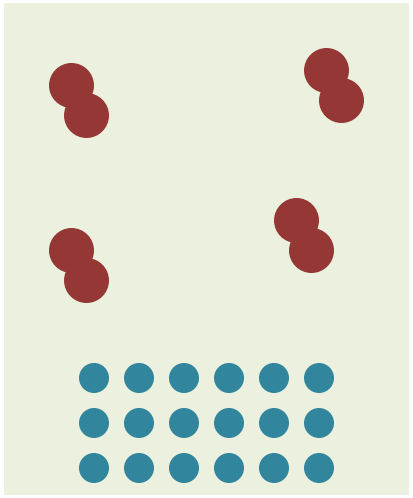
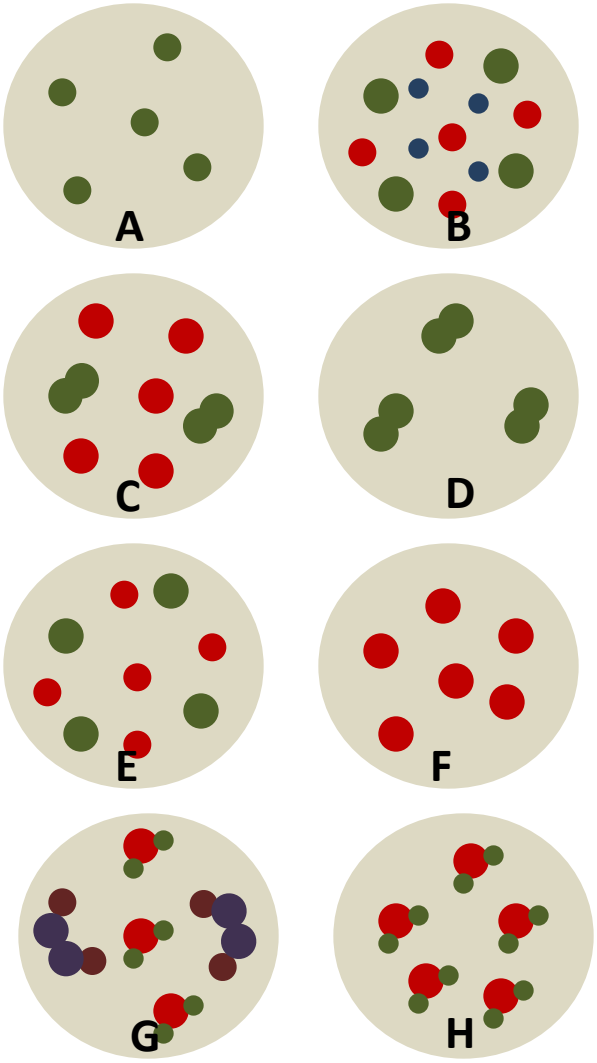


SYSTEM D

EXERCISE

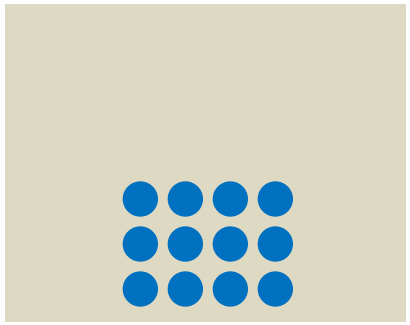
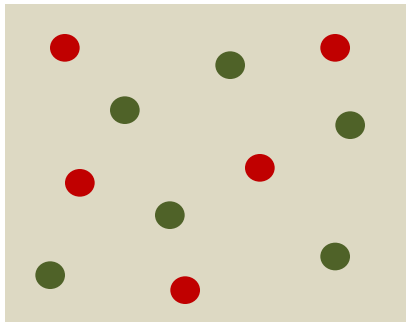
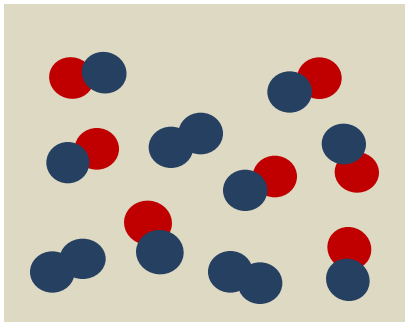
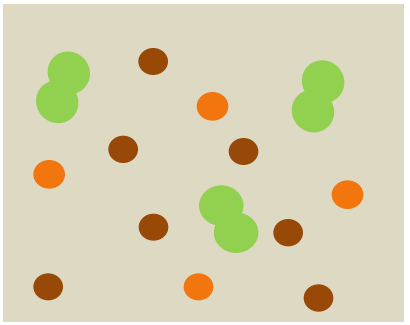
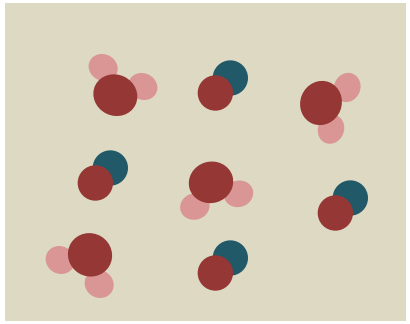
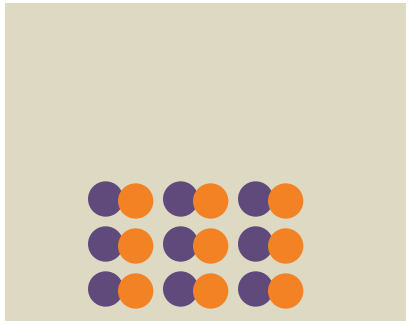
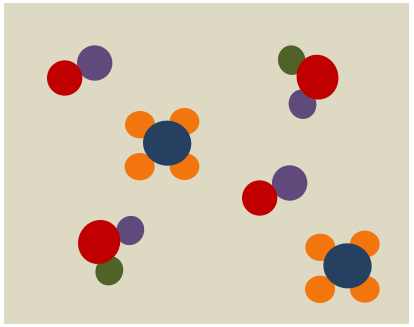
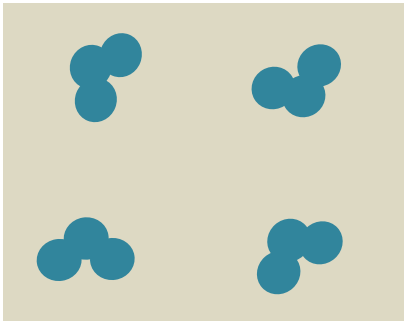
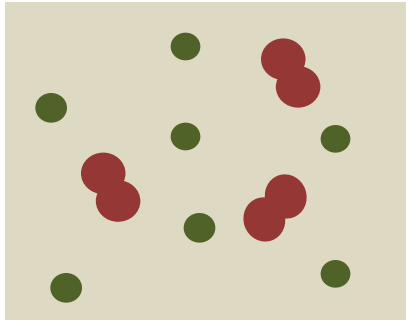
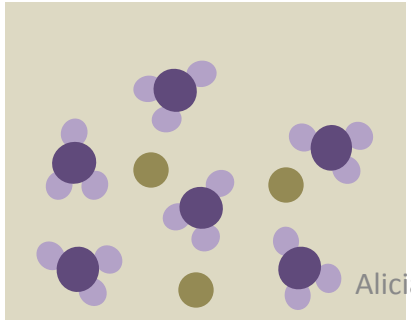
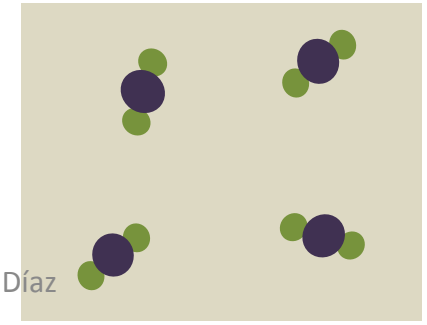
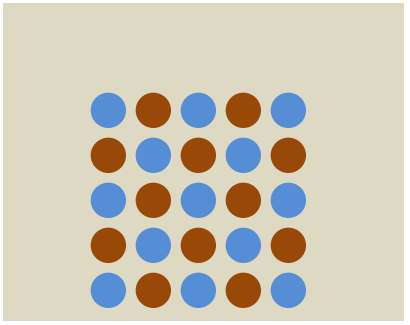
Choose the correct letters in the boxes on the right.



Mixture of two simple substances	
A simple substance with diatomic molecules	
Mixture of three simple substances	
One compound substance	
One simple substance	
Mixture of two compounds	
A simple substance with monoatomic molecules	

EXERCISE

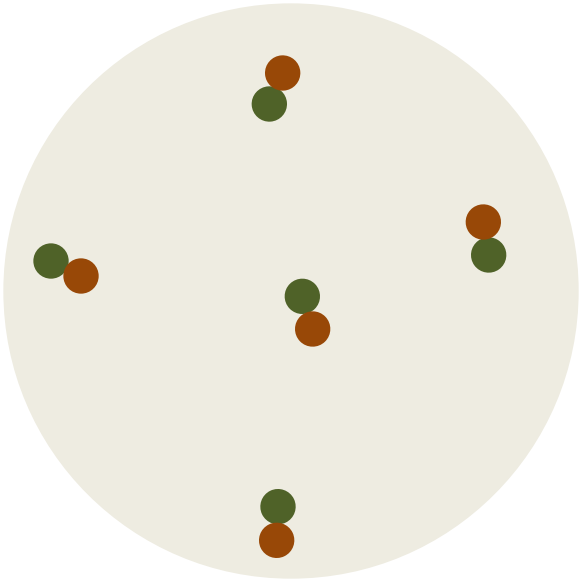
Classify the following diagrams as: simple substance, compound, mixture of simple substances, mixture of compounds, mixture of simple substances and compounds.

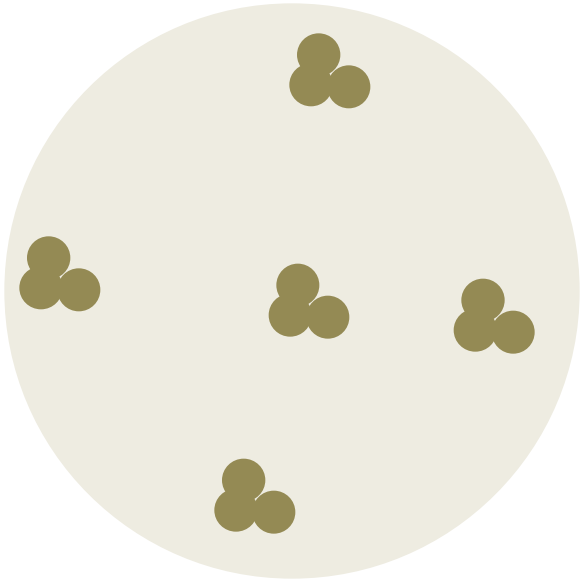













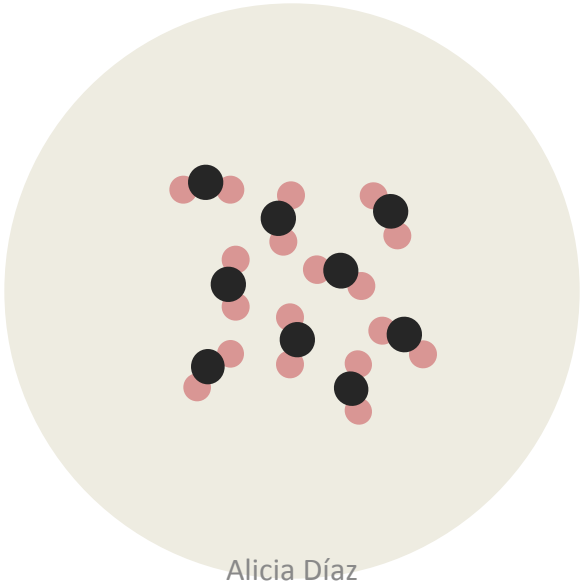
EXERCISE

Which of the following diagrams represent:

1. **The compound CO (gas)**
2. **The simple substance O_3 (gas)**
3. **The compound H_2O (liquid)**
4. **The compound NaCl (solid)**







EXERCISE

Is the air a pure substance?

A. No, the air is a gas mixture.
B. Yes, because it is a gas.
C. No, because a simple gas form it.
D. Yes, for that reason we can breathe it.

EXERCISE

We add a small amount of a solid substance to a glass with water. After a while, the solid substance disappears and the water is of pink colour.

A. What is this process called? What tests can you do to verify it?
B. Indicate which is the solute and which is the solvent.
C. Make a drawing of how you imagine the molecules of the solid substance and water are, before and later.
D. What changes occur in the molecules of the solid substance when it disappears in the water?
E. Why does all the water change colour, although you do not shake with a teaspoon, and not only the part nearest where you put the solid?
F. A classmate says that the water colours because the molecules of the solid are of pink colour and they mix with those of water that do not have colour. Do you agree? Justify your answer.
G. A classmate says that if you want to return the water to its original transparent state, you can filter the mixture. Do you agree? Explain your answer.
H. A classmate says that the pink solid is not the one that you think but another that has the same colour. How can you prove it?