

The Nature of Matter

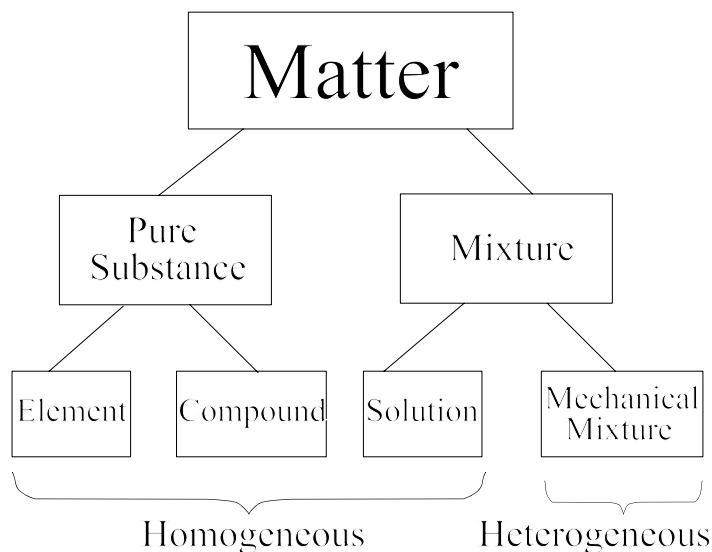
List

- list the properties of matter and describe a classification scheme for it that distinguishes between types of pure substances and mixtures

Notes

Matter

- ★ Chemistry - study of the nature of matter - its composition and the changes it undergoes
- ★ Definition - anything that has mass and takes up space
- ★ Properties of matter
 - ☆ has mass
 - ☆ takes up space
 - ☆ has inertia
 - ☆ composed of elements, compounds, or mixtures
- ★ Classification scheme



Answer the questions below by circling the number of the correct response

- Which of the following is NOT matter? (1) a chair (2) air (3) light (4) water
- Which of the following is NOT a property of matter? (1) inertia (2) occupies space (3) composed of elements (4) weightlessness
- Which of the following may be heterogeneous? (1) elements only (2) compounds only (3) mixtures only (4) elements and compounds
- Which of the following is pure? (1) elements only (2) compounds only (3) mixtures only (4) elements and compounds
- Which of the following consists of more than one substance? (1) elements only (2) compounds only (3) mixtures only (4) elements and compounds
- Which of the following are types of matter? (1) elements only (2) compounds only (3) mixtures only (4) all of these
- Which of the following is a type of mixture? (1) elements only (2) compounds only (3) solutions only (4) elements and compounds

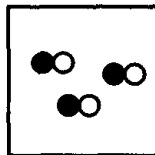
8. Which of the following is matter? (1) love (2) ideas (3) rock (4) heat
9. The tendency of matter to maintain its state of motion is known as (1) density, (2) inertia, (3) mass, (4) volume.
10. Which of the following is NOT composed of two or more types of atoms? (1) element (2) compound (3) solution (4) mechanical mixture
11. Which represents a homogeneous mixture? (1) $\text{CuSO}_4(\text{s})$ (2) $\text{NaCl}(\text{aq})$ (3) $\text{Br}_2(\ell)$ (4) $\text{CO}_2(\text{g})$
12. Which substance can be decomposed by a chemical change? (1) ammonia (2) iron (3) argon (4) helium

13. Given:

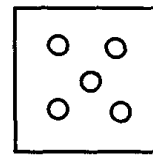
● = particle X

○ = particle Y

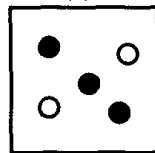
Which diagram represents a mixture?



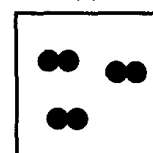
(1)



(3)



(2)



(4)