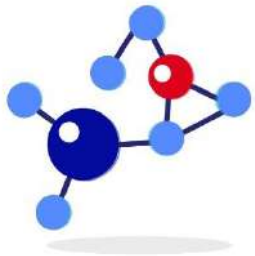
Name_____Date_____



ATOMS, ELEMENTS, MOLECULES & COMPOUNDS QUIZ-Answer Key

1. Define the following:

a. Atom

An atom is the smallest particle of an element that maintains its chemical identity through all chemical and physical changes.

b. Element

Elements are pure substances which cannot be split into two or more simpler substances by any known chemical means.

c. Molecule

A molecule is the smallest particle of an element or a compound that can exist separately (or on its own).

d. Compound

Compounds are pure substances that are made up of two or more elements chemically combined.

2. Indicate whether the following substance is an element, molecule, or a compound

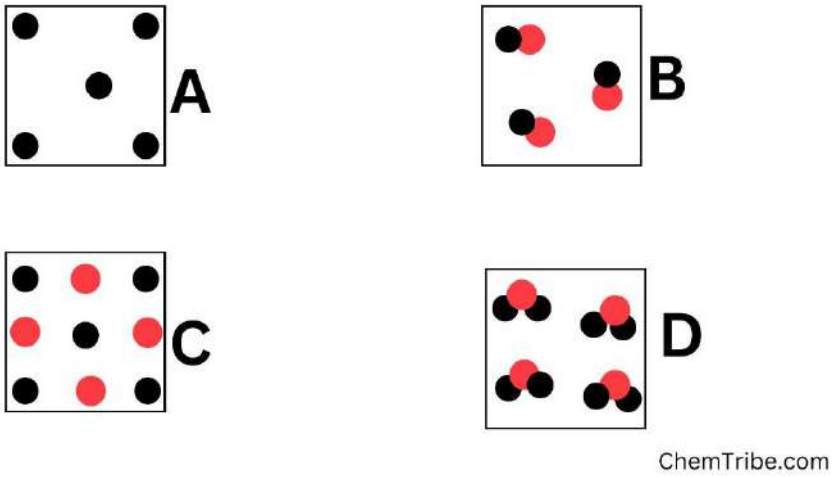
Substance	Element, Molecule, compound
Gold	Element
Water	Molecule/Compound
Salt	Compound
Ozone	Molecule
Sugar	Compound
Phosphorous	Element
Silver	Element
Methane	Compound
Vinegar	Compound
Oxygen gas	Molecule

3. Indicate whether each of the following statements is **True** or **False**

a. Elements can only exist as atoms: **True**
b. Compounds can only exist as molecules: **False**
c. Elements cannot be broken down into new substances: **True**

d. All atoms of a specific element have the different chemical makeup, size, and mass: **False**
e. Molecule is any atoms that are together by a chemical bond: True
f. Every compound is a molecule, and every molecule is a compound: **False.**
g. When elements join and become compounds, they do not lose many of their individual behaviors: **False**

4. Indicate whether the substances represented by boxes A, B, C and D are **Elements, Mixture of elements, Compounds, or Mixture of compounds.**



A: **Elements**

B: **Compound**

C: **Mixture of elements**

D: **Mixture of compounds**

5. Study the formulae of compounds given in the table and use your knowledge of elements and compounds to complete the table.

Name of compound	Formulae	Elements present	Number of atoms in one molecule
Ammonia	NH_3	**Nitrogen, Hydrogen**	**4**
Table salt	NaCl	**Sodium, chlorine**	**2**
Water	H_2O	**Hydrogen, oxygen**	**3**
Rust	Fe_2O_3	**Iron, oxygen**	**5**
Sucrose	$C_{12}H_{22}O_{11}$	**Carbon, hydrogen, oxygen**	**45**