

Molecules

1. What is a molecule?

- a) A single atom
- b) A group of atoms bonded together
- c) A type of cell
- d) A small particle with no atoms

2. Which of the following is a molecule?

- a) Oxygen (O_2)
- b) Gold (Au)
- c) Hydrogen ion (H^+)
- d) Neutron

3. What holds atoms together in a molecule?

- a) Gravity
- b) Magnetic force
- c) Chemical bonds
- d) Electric current

4. Which of these is a compound molecule?

- a) H_2
- b) O_2
- c) CO_2
- d) N_2

5. What is the smallest part of a compound that still retains its properties?

- a) Atom
- b) Electron
- c) Nucleus
- d) Molecule

6. Water is made of which atoms?

- a) One hydrogen and one oxygen
- b) Two oxygen and one hydrogen
- c) Two hydrogen and one oxygen
- d) Three oxygen

7. Which of the following is not a molecule?

- a) H_2O
- b) CO_2
- c) NaCl
- d) O_3

8. What is the molecular formula of carbon dioxide?

- a) CO
- b) C_2O
- c) CO_2
- d) C_2O_2

9. How are molecules different from atoms?

- a) Molecules are smaller than atoms
- b) Molecules are single particles with no charge
- c) Molecules are made of two or more atoms
- d) Molecules are made of only one type of atom

10. Which of the following is a molecular element?

- a) CO_2
- b) H_2
- c) NaCl
- d) CH_4

11. What best defines a molecular compound?

- a) A compound made of metal atoms
- b) A compound formed from ions
- c) A compound made of nonmetal atoms bonded covalently
- d) A mixture of different molecules

12. Which of the following is a molecular compound?

- a) O₂
- b) N₂
- c) HCl
- d) NaOH

13. Which statement is true about molecular elements?

- a) They are always made of different kinds of atoms
- b) They are usually metals
- c) They are made of the same type of atom bonded together
- d) They do not form bonds

14. What is the main difference between a molecular element and a molecular compound?

- a) A molecular element contains different types of atoms, while a molecular compound contains the same type.
- b) A molecular element is made of only one type of atom, while a molecular compound is made of different types of atoms.
- c) A molecular element always contains metals, while a molecular compound does not.
- d) A molecular element is always a solid, while a molecular compound is always a gas.

15. Which of the following is a diatomic molecular element?

- a) He
- b) H₂
- c) C
- d) CO₂

16. Which group of elements typically forms diatomic molecules?

- a) Noble gases
- b) Alkali metals
- c) Halogens
- d) Transition metals

17. Which of the following is not a diatomic molecular element?

- a) N_2
- b) O_2
- c) S_8
- d) F_2

18. Which of the following is a monoatomic molecular element?

- a) He
- b) O_2
- c) S_8
- d) Cl_2

19. Which molecular element is polyatomic?

- a) O_2
- b) N_2
- c) S_8
- d) H_2

20. Which of the following correctly matches the type of molecular element with an example?

- a) Monoatomic – O_2
- b) Diatomic – Cl_2
- c) Polyatomic – He
- d) Diatomic – S_8