

Chemical Bonding Terms



Here are 15 multiple-choice questions based on Kossel-Lewis electron dot structures:

- 1. What does a Lewis dot structure represent?**
 - A) Nucleus of atoms
 - B) Valence electrons
 - C) Proton count
 - D) Neutron count
- 2. What is the significance of the number of dots around the symbol in a Lewis dot structure?**
 - A) Number of protons
 - B) Number of valence electrons
 - C) Number of neutrons
 - D) Number of bonds
- 3. Which of the following ions has the same Lewis structure as Neon?**
 - A) Cl^-
 - B) Na^+
 - C) K^+
 - D) Both A and B
- 4. What is the purpose of Lewis dot symbols?**
 - A) To represent atomic nuclei
 - B) To represent valence electrons
 - C) To represent all electrons in an atom
 - D) To represent neutrons in the nucleus
- 5. Which molecule is correctly represented by a Lewis structure showing two shared electron pairs between atoms?**
 - A) Cl_2
 - B) O_2
 - C) H_2
 - D) F_2
- 6. How are lone pairs represented in Lewis dot structures?**
 - A) Dashes
 - B) Lines
 - C) Dots
 - D) Arrows
- 7. Which of the following molecules follows the octet rule according to its Lewis dot structure?**
 - A) BF_3
 - B) NO_2
 - C) H_2O
 - D) SF_6
- 8. What does a single line between two atoms represent in a Lewis structure?**
 - A) A lone pair of electrons
 - B) A double bond
 - C) A single covalent bond
 - D) Ionic bond

9. What rule is followed by atoms when forming bonds according to Lewis structures?
- A) Duet rule
 - B) Octet rule
 - C) Triple rule
 - D) Electronegativity rule
10. Which of the following does not have an octet of electrons in its Lewis structure?
- A) CO_2
 - B) NH_3
 - C) H_2O
 - D) BeCl_2
11. Which of the following represents a correct Lewis dot structure for CH_4 ?
- A) $\text{H} - \text{C} \equiv \text{H}$
 - B) $\text{H} - \text{C} - \text{H}$
 - C) $\text{H} : \text{C} : \text{H}$
 - D) $\text{H} (\text{dot}) \text{C} (\text{dot}) \text{H}$
12. What happens to the electrons in the formation of a covalent bond in a Lewis structure?
- A) Electrons are transferred from one atom to another.
 - B) Electrons are shared between atoms.
 - C) Electrons are created.
 - D) Electrons are destroyed.
13. In a Lewis structure, how are multiple bonds between atoms depicted?
- A) With a single dash
 - B) With dots around the atoms
 - C) With double or triple dashes
 - D) With curved arrows
14. Which of the following molecules would have resonance structures in its Lewis representation?
- A) CO_2
 - B) O_3
 - C) H_2O
 - D) NH_3
15. Which element is least likely to follow the octet rule in its compounds?
- A) Nitrogen
 - B) Fluorine
 - C) Hydrogen
 - D) Oxygen

Answer Key:

- 1. B
- 2. B
- 3. D
- 4. B
- 5. B
- 6. C
- 7. C
- 8. C
- 9. B
- 10. D
- 11. B

- 12. B
- 13. C
- 14. B
- 15. C