

Intramolecular and Intermolecular Forces

Chemistry · Answer Key · 15 Questions

1. What is another common name for an intramolecular force?

- A) Hydrogen bond
- B) Chemical bond**
- C) London dispersion force
- D) Van der Waals force

2. What type of bond involves the transfer of electrons from a metal to a non-metal?

- A) Covalent bond
- B) Metallic bond
- C) Ionic bond**
- D) Hydrogen bond

3. Which bond is characterized by the sharing of a pair of electrons between two non-metals?

- A) Covalent**
- B) Ionic
- C) Metallic
- D) Electrostatic

4. What term describes a molecule with an asymmetrical charge distribution?

- A) Non-polar
- B) Polar**
- C) Neutral
- D) Metallic

5. Which of the following is an example of a non-polar molecule shape?

- A) Bent
- B) Linear/Symmetrical**
- C) Asymmetrical
- D) Dipole

6. What force explains why ionic compounds like NaCl dissolve in water?

- A) Covalent bonding
- B) Ion-dipole forces**
- C) Metallic bonding
- D) Induced-dipole forces

7. What determines the strength of an ion-dipole force?

- A) The color of the ion
- B) The size of the charge on the ion**
- C) The viscosity of the liquid
- D) The speed of the atoms

8. What happens when an ion approaches a non-polar molecule?

- A) It becomes a metal
- B) It creates an ion-induced dipole**
- C) It turns into a gas
- D) It forms a covalent bond

9. Are ion-induced dipole forces permanent?

- A) Yes, always
- B) No, they are temporary**
- C) Only in solids
- D) Only in metals

10. What type of attraction occurs between two polar molecules?

- A) Dipole-dipole force**
- B) Metallic force
- C) Ionic-covalent force
- D) Non-polar attraction

11. In a water molecule, which atom attracts the sodium cation?

- A) Hydrogen
- B) Oxygen**
- C) Chlorine
- D) Carbon

12. Which of the following describes the prefix 'intra-'?

- A) Between
- B) Outside
- C) Within**
- D) Across

13. What is the result of the sharing or transfer of electrons between atoms?

- A) Electrostatic force of attraction**
- B) Nuclear decay
- C) Molecular expansion
- D) Ionization of air

14. What shape is commonly associated with polar molecules?

A) Bent

B) Perfectly spherical

C) Square planar

D) Linear symmetrical

15. In an ion-dipole interaction, what does the chloride anion attract?

A) The oxygen end of water

B) The hydrogen end of water

C) Other chlorine atoms

D) Metal cations