

Name _____

Electrifying Bonds: Polar and Nonpolar Covalent Connections

Multiple Choice Questions

1. What is the main difference between polar and nonpolar covalent bonds?
 - a) Polar bonds have charge separation, while nonpolar bonds do not.
 - b) Polar bonds are weaker than nonpolar bonds.
 - c) Polar bonds always involve oxygen atoms.
 - d) Nonpolar bonds are always soluble in water.
2. Why do polar molecules have charge separation?
 - a) Because they contain more hydrogen atoms.
 - b) Because they have an uneven distribution of electrons.
 - c) Because they are always negatively charged.
 - d) Because they contain oxygen atoms.
3. Which of the following molecules is nonpolar?
 - a) Water (H_2O)
 - b) Ammonia (NH_3)
 - c) Oxygen gas (O_2)
 - d) Methane (CH_4)
4. What is electronegativity's role in the formation of polar covalent bonds?
 - a) Electronegativity has no effect on polar bonds.
 - b) It determines the strength of the bond.
 - c) It influences the even distribution of electrons in nonpolar bonds.
 - d) It affects the uneven sharing of electrons in polar bonds.
5. Which type of bond is responsible for water's ability to dissolve many substances?
 - a) Ionic bond
 - b) Nonpolar covalent bond
 - c) Polar covalent bond
 - d) Hydrogen bond

