

Name: _____ Date: _____

Molecular Matchmakers: 2nd Grade Chemical Bonding Quiz

Why do some atoms stick together while others stay apart? Analyze 10 tricky scenarios involving atomic teamwork and electron sharing.

1. Imagine two Hydrogen twins who want to play with the same toy (an electron) at the exact same time. If they decide to hold onto the toy together so they both win, what kind of 'atomic hug' are they doing?

- A. A Solo Flight
- B. A Covalent Bond
- C. A Magnetic Push
- D. A Gravity Drop

2. True or False: In a 'Metallic Bond,' electrons act like a big group of friends swimming in a shared pool rather than staying with just one atom.

- A. True
- B. False

3. If a grumpy atom steals an electron from a nice atom, they become opposites. Because opposites attract, they stick together in an _____ bond.

- A. Invisible
- B. Icy
- C. Ionic
- D. Iron

4. You are building a bridge and need a material where atoms are locked tight in a grid but share a 'sea' of electrons to stay strong. Which bonding style should your material have?

- A. Gaseous Bond
- B. Covalent Bond
- C. Metallic Bond
- D. Paper Bond

5. Water is made of Oxygen and Hydrogen sharing electrons. Even though they share, the Oxygen is a bit of a 'hog' and pulls the electrons closer. This creates a _____ covalent bond.

- A. Polar
- B. Plastic
- C. Perfect
- D. Power

6. True or False: Atoms form bonds because they are trying to reach a state of 'stability,' which is like finding a comfortable seat where they don't have to wobble.

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- A. True
- B. False

7. If you have a mystery substance that shatters like glass when you hit it with a hammer, it likely has salt-like bonds. What is the scientific name for these 'giver and taker' bonds?

- A. Ionic
- B. Bouncy
- C. Rubber
- D. Glue

8. When two Nitrogen atoms in the air bond, they share THREE pairs of electrons because they are so hungry for stability. This is called a _____ bond.

- A. Single
- B. Double
- C. Triple
- D. Quadruple

9. True or False: Every single atom in the entire universe wants to bond with every other atom it meets immediately.

- A. True
- B. False

10. Which of these is the best description of a 'Molecule' created by bonding?

- A. A tiny piece of dust
- B. A group of atoms stuck together in a specific shape
- C. An atom that has lost its electrons
- D. A type of battery