Name: _____ **Date:** _____

Stuck Like Glue: 3rd Grade Molecular Architects Quiz

Challenge your students to design stable compounds as they predict how atoms connect and build new materials using chemical forces.

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1. Imagine you are building a new material for a superhero's shield. If atoms are 'sharing' their outer shells equally to stay strong, what type of bond are they creating?

A. A magnetic pull
B. A covalent bond
C. A gravitational bond
D. A breakable bond

2. True or False: In an ionic bond, one atom acts like a 'giver' and another acts like a 'taker' to create a connection.

A. True
B. False

3. In a piece of silver jewelry, the atoms are held together by a shared _____ of electrons that lets them bend without breaking.

A. Cloud
B. Sea
C. River
D. Wall

4. If you mix a 'giver' atom (metal) with a 'taker' atom (non-metal), what is the most likely result of their interaction?

A. They will push each other away forever
B. They will melt into a liquid immediately
C. They will form an ionic bond
D. They will disappear

5. Potassium Bromide is a crystal that shatters when hit with a hammer. This brittle 'glass-like' property is a common trait of _____ bonds.

A. Weak
B. Flexible
C. Ionic
D. Bouncy

6. True or False: Atoms only bond together because they are bored and want to change color.

A. True
B. False

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7. Why can an aluminum soda can be crushed into a ball without the metal atoms falling apart?

A. The atoms are glued with sticky sap
B. Metallic bonds allow atoms to slide past each other
C. The atoms are not actually touching
D. The atoms are made of rubber

8. When two atoms of the same type, like two Oxygen atoms, join together to form the air we breathe, they always _____ their electrons.

A. Throw away
B. Share
C. Steal
D. Freeze

9. True or False: A molecule is the name for a group of atoms held together by chemical bonds.

A. True
B. False

10. If you were a scientist trying to create a liquid that stays together in drops, which type of bonding would you focus on for those small molecules?

A. Heavy bonding
B. Covalent bonding
C. No bonding
D. Static bonding