Name: _____ **Date:** _____

Answer Key: Stuck Like Magic: Chemical Bonds for 3rd Grade Alchemists

Can you unravel the sticky secrets of the tiny world? Use glue-like science to build sugar cubes and shiny diamonds while exploring matter.

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1. Imagine two nitrogen atoms decide to 'hold hands' by sharing their outer parts to stay together. What kind of bond is this?

Answer: B) A covalent bond

Covalent bonds happen when atoms share their electrons (like holding hands) to stay connected.

2. True or False: Atoms act like tiny building blocks that can snap together to make everything we see.

Answer: A) True

Chemical bonding is how atoms connect to form all the different materials in our world.

3. When a silver spoon is made, many silver atoms share a big 'pool' of moving parts. This is called a _____ bond.

Answer: C) Metallic

Metallic bonds are special because electrons move freely between all the atoms, which is why metals are shiny and strong.

4. If an atom 'gives away' a part of itself to another atom so they both become charged and stick together, it creates what?

Answer: A) An ionic bond

Ionic bonds form when one atom gives an electron to another, making them opposites that attract like magnets.

5. Sugar crystals are held together by atoms sharing electrons. This means sugar is a _____ compound.

Answer: B) Covalent

Since the atoms in sugar share electrons to stay together, it is a covalent compound.

Name: _____ **Date:** _____

6. True or False: In a metallic bond, the atoms are held together loosely like a pile of dry sand.

Answer: B) False

Metallic bonds are very strong and hold atoms in a tight structure, which is why you can't push your finger through a piece of iron.

7. Why do atoms bother to form bonds in the first place?

Answer: C) To become more stable and happy

In chemistry, atoms bond to reach a stable state, often comparing it to being 'happier' or calmer.

8. Lithium fluoride is a type of salt. Because it is made of atoms that transferred electrons, its bond type is _____.

Answer: A) Ionic

Salts are the classic example of ionic bonding where electrons move from one atom to another.

9. True or False: A diamond is very hard because the carbon atoms inside are locked together by covalent bonds.

Answer: A) True

Covalent bonds can be very strong, and in diamonds, they create a super-strong network that is hard to break.

10. Which of these acts most like an ionic bond?

Answer: B) A person giving a ball to a friend, then standing close to them

Giving something away (the electron) makes the giver and receiver stay close due to the charge change, just like an ionic bond.