

Name: _____ Date: _____

Build Your Best Carbon Creations: 2nd Grade Chemistry Quest

Go beyond simple shapes as you architect carbon-based models; this quiz format builds spatial reasoning through molecule construction and pattern analysis.

1. Imagine you are building a 'Carbon Caterpillar' chain. If Carbon is like a LEGO brick with 4 connection bumps, how many total connections can TWO Carbon bricks provide together if they share one pair of bumps?

- A. 2 connections
- B. 4 connections
- C. 6 connections
- D. 8 connections

2. In the world of organic chemistry, Carbon is the 'Super-Bonder.' To be happy and stable, every single Carbon atom needs to make exactly ___ bonds.

- A. One
- B. Two
- C. Three
- D. Four

3. Carbon atoms are so friendly that they can join together to form a closed circle shape, which scientists call a 'ring'.

- A. True
- B. False

4. You are designing a new 'Sugar Star' molecule. If you want to make it an 'Organic' molecule, which specific ingredient MUST be the backbone of your star?

- A. Gold
- B. Carbon
- C. Helium
- D. Silver

5. If you see a molecule that looks like a long, straight zipper made of Carbon and Hydrogen, it is most likely a type of ___.

- A. Metal
- B. Rock
- C. Hydrocarbon
- D. Glass

6. True or False: A 'Double Bond' means two atoms are holding hands with both hands instead of just one.

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- A. True
- B. False

7. Look at these four secret codes for molecules. Which one represents a molecule with a 'Carbon Sandwich' (a carbon atom between two other carbons)?

- A. C-O-H
- B. H-H-H
- C. C-C-C
- D. O-O-O

8. When a Carbon atom bonds with an Oxygen and a Hydrogen together (forming an -OH group), it turns the molecule into a type of ____.

- A. Salt
- B. Alcohol
- C. Gas
- D. Magnet

9. A molecule with 10 carbons in a row will act exactly the same as a molecule with 2 carbons in a row.

- A. True
- B. False

10. If you change just ONE atom in a large organic molecule, what happens to your 'Creation'?

- A. Nothing changes at all.
- B. It becomes a different substance.
- C. It disappears instantly.
- D. It turns into a piece of wood.