

Name: _____ Date: _____

Could You Be a Carbon Architect? Your 2nd Grade Molecule Challenge

Will your Lego skills help you build a forest? Study how tiny carbon chains connect to make the sticky sap and sweet fruit found in nature.

1. Imagine you are building a 'chain' of carbon atoms. If you want to make a long, straight noodle shape instead of a circle, what must you do?

- A. Connect the first atom to the last atom
- B. Keep adding new atoms to the ends without touching the start
- C. Break all the atoms into tiny pieces
- D. Only use one single atom

2. A scientist finds a molecule in a strawberry. If that molecule is built mostly of Carbon atoms, we call it an _____ molecule.

- A. Metallic
- B. Organic
- C. Space
- D. Invisible

3. True or False: Every single organic molecule in the world looks exactly the same because they all use carbon.

- A. True
- B. False

4. If a molecule's carbon 'skeleton' is shaped like a necklace pulled into a perfect circle, what kind of structure is it?

- A. A straight chain
- B. A branched chain
- C. A ring structure
- D. A broken pile

5. Carbon is a very 'friendly' atom. It has _____ 'arms' (bonds) that it uses to hold onto other atoms at the same time.

- A. Two
- B. Four
- C. Ten
- D. Zero

6. True or False: Changing the shape of a carbon molecule can change how it smells or tastes.

- A. True
- B. False

Name: _____ Date: _____

7. Look at these two molecules: One is a straight line of 5 carbons. The other is 5 carbons with one sticking out of the middle like a tree limb. How would you describe the second one?

- A. A straight chain
- B. A branched chain
- C. A disappearing chain
- D. An empty chain

8. To build a molecule that is very strong and hard, like a diamond, carbon atoms must connect in a _____ pattern.

- A. Sloppy
- B. Flat
- C. 3D Grid
- D. Single line

9. True or False: Carbon is only found in things that are man-made, like plastic toys.

- A. True
- B. False

10. Why do scientists call carbon the 'King of Elements' for building life?

- A. Because it is bright purple
- B. Because it can connect in so many different shapes
- C. Because it is the heaviest thing on Earth
- D. Because it is very loud