Name: _____ **Date:** _____

Secrets of the Carbon Skeleton: A 9th Grade Chemistry Quiz

Identify basic hydrocarbon structures and functional groups through visual patterns to build a strong foundation for future organic synthesis.

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1. What unique property of carbon allows it to form long, stable chains and complex rings found in organic molecules?

A. It can only bond with oxygen
B. It has four valence electrons for bonding
C. It is a noble gas and does not react
D. It consists of heavy metal isotopes

2. The organic compound commonly found in nail polish remover, known as _____, belongs to the ketone family.

A. Methanol
B. Ethylene
C. Propanone
D. Hexane

3. Hydrocarbons are organic compounds that consist exclusively of carbon and hydrogen atoms.

A. True
B. False

4. Which of these is a common characteristic of organic molecules like those found in candle wax (paraffin)?

A. High electrical conductivity
B. They are always inorganic salts
C. Flammability
D. Inability to contain hydrogen

5. All organic compounds must originate from a living organism and cannot be synthesized in a laboratory.

A. True
B. False

6. Refineries separate crude oil into different products like gasoline and jet fuel based on which physical property?

A. Color
B. Magnetic pull
C. Boiling point
D. Taste

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7. A hydrocarbon that contains at least one double bond between carbon atoms is classified as an _____.

A. Alkane
B. Alkene
C. Alkyne
D. Alcohol

8. Polymers are large organic molecules made of repeating structural units called monomers.

A. True
B. False

9. In organic chemistry, what does the suffix '-ol' (as in Menthol or Isopropanol) usually indicate?

A. The presence of a halogen
B. A triple bond structure
C. An alcohol functional group
D. The molecule is an acid

10. When an organic compound burns completely in oxygen, the two main chemical products are water and _____.

A. Carbon monoxide
B. Nitrogen gas
C. Pure carbon
D. Carbon dioxide