

Answer all the questions then check your answers

1. What is crude oil?
2. What are hydrocarbons?
 - a. What does the term 'saturated' mean in the context of hydrocarbons?
3. What is an alkane?
4. Name the first two alkanes.
5. What is the general formula for alkanes and how does it help in identifying them?
6. Name the alkane with three carbon atoms and draw its structure.
7. State two uses of crude oil.
8. Explain how crude oil is formed.
9. Name the first four alkanes and give their molecular formulas.

Answers

Answer all the questions then check your answers

1. What is crude oil?

Crude oil is a mixture of hydrocarbons.

2. What are hydrocarbons?

Hydrocarbons are compounds made up of only hydrogen and carbon atoms.

b. What does the term 'saturated' mean in the context of hydrocarbons?

Saturated means that the hydrocarbon contains only single bonds between carbon atoms.

3. What is an alkane?

Alkanes are a type of hydrocarbon where all the carbon-carbon bonds are single bonds. They are saturated hydrocarbons

4. Name the first two alkanes.

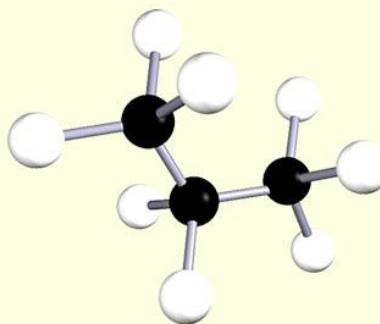
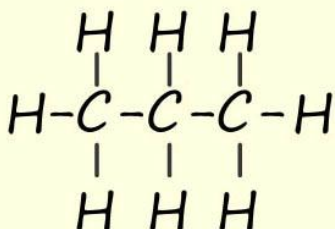
Methane (CH₄) and ethane (C₂H₆)

5. What is the general formula for alkanes and how does it help in identifying them?

The general formula for alkanes is C_nH_{2n+2}. It helps in identifying them by providing the ratio of carbon to hydrogen atoms in the molecule.

6. Name the alkane with three carbon atoms and draw its structure.

Propane (C_3H_8)



7. State two uses of crude oil.

Crude oil is used as a fuel source (e.g. petrol, diesel) and as a raw material for making plastics and other chemicals.

8. Explain how crude oil is formed.

Crude oil is formed from the remains of ancient marine organisms (plankton) that died and were buried under layers of sediment. Over millions of years, heat and pressure transformed this organic matter into crude oil.

9. Name the first four alkanes and give their molecular formulas.

Methane (CH_4), ethane (C_2H_6), propane (C_3H_8), and butane (C_4H_{10})