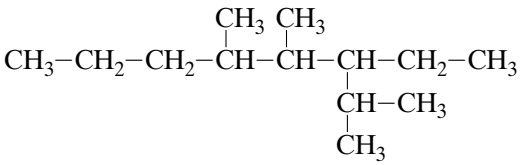
TABLE 4 Some Straight-Chain Alkyl Groups

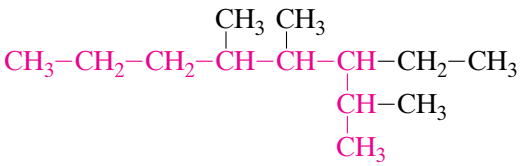
Alkane	Name	Alkyl group	Name
CH_4	methane	$-CH_3$	methyl
CH_3-CH_3	ethane	$-CH_2-CH_3$	ethyl
$CH_3-CH_2-CH_3$	propane	$-CH_2-CH_2-CH_3$	propyl
$CH_3-CH_2-CH_2-CH_3$	butane	$-CH_2-CH_2-CH_2-CH_3$	butyl
$CH_3-CH_2-CH_2-CH_2-CH_3$	pentane	$-CH_2-CH_2-CH_2-CH_2-CH_3$	pentyl

Branched-Chain Alkane Nomenclature

The naming of branched-chain alkanes also follows a systematic method. The hydrocarbon branches of alkanes are alkyl groups. **Alkyl groups** *are groups of atoms that are formed when one hydrogen atom is removed from an alkane molecule*. Alkyl groups are named by replacing the suffix *-ane* of the parent alkane with the suffix *-yl*. Some examples are shown in **Table 4.** Alkyl group names are used when naming branched-chain alkanes. We will only present the method for naming simple branched-chain alkanes with only straight-chain alkyl groups. Consider the following molecule.



To name this molecule, locate the parent hydrocarbon. The parent hydrocarbon is the longest continuous chain that contains the most straight-chain branches. In this molecule, there are two chains that are eight carbon atoms long. The parent hydrocarbon is the chain that contains the most straight-chain branches. Do not be tricked by the way the molecule is drawn. The longest chain may be shown bent.



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