

Naming Alkanes – Worksheet #1

Name the following branched alkanes:

1.	$\begin{array}{c} \text{H}_3\text{C}-\text{CH}-\text{CH}_3 \\ \\ \text{CH}_3 \end{array}$	
2.	$\begin{array}{c} \text{H}_3\text{C}-\text{CH}-\text{CH}_3 \\ \\ \text{CH}_2-\text{CH}_3 \end{array}$	
3.	$\begin{array}{c} \text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{CH}-\text{CH}_2-\text{CH}_2-\text{CH}_3 \\ \\ \text{CH}_2-\text{CH}_3 \end{array}$	
4.	$\begin{array}{c} \text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{CH}-\text{CH}-\text{CH}_2-\text{CH}_3 \\ \qquad \qquad \\ \text{CH}_3 \qquad \qquad \text{CH}_2-\text{CH}_3 \end{array}$	
5.	$\begin{array}{c} \text{H}_3\text{C}-\text{CH}_2-\text{CH}-\text{CH}_2-\text{CH}-\text{CH}_2-\text{CH}_3 \\ \qquad \qquad \\ \text{CH}_3 \qquad \qquad \text{CH}_2-\text{CH}_2-\text{CH}_3 \end{array}$	
6.	$\begin{array}{c} \text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_2 \\ \\ \text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{CH}_2-\text{C}-\text{CH}_2-\text{CH}_3 \\ \\ \text{CH}_3 \end{array}$	
7.	$\begin{array}{c} \text{CH}_2-\text{CH}_2-\text{CH}_3 \\ \\ \text{H}_2\text{C}-\text{CH}-\text{CH}_2-\text{CH}-\text{CH}_3 \\ \qquad \qquad \\ \text{CH}_3 \qquad \qquad \text{CH}_2-\text{CH}_2-\text{CH}_3 \end{array}$	

Draw structural formulas for the following molecules. Remember the following:

- Carbons on the end of a chain are attached to three hydrogens
- Carbons in the middle of a chain are attached to two hydrogens
- Carbons that have one branch attached are also attached to one hydrogen
- Carbons that have two branches attached are not attached to any hydrogens

8. 4-ethyloctane

9. 2-methylnonane

10. 3,3-dimethylpentane

11. 3-ethylpentane

12. 3-ethyl-2-methylheptane

- 1) 2-methylpropane 2) 2-methylbutane 3) 4-ethylheptane 4) 3-ethyl-4-methylheptane 5) 5-ethyl-3-methyloctane 6) 5-ethyl-5-methyldecane
7) 4-ethyl-6-methylnonane 8-12) see website