

Organic formulae 1

Before you answer the puzzles below fill in the table of alkanes:

name	molecular formula	structural formula	displayed formula
methane	CH ₄		
ethane		CH ₃ CH ₃	<pre> H H H — C — C — H H H </pre>
propane	C ₃ H ₈	CH ₃ CH ₂ CH ₃	
butane	C ₄ H ₁₀	CH ₃ CH ₂ CH ₂ CH ₃	

Gridlock 1

Each row, column and 2 x 2 box contains information about the four alkanes listed above. Use your problem solving skills and the answers in the table above to fill in the blank boxes.

name		molecular formula	
methane			C ₄ H ₁₀
	butane	CH ₄	
	CH ₃ CH ₂ CH ₃		
		<pre> H H H — C — C — H H H </pre>	
structural formula		displayed formula	

gridlocks – can you unlock the grid?

Gridlock 2

In puzzle 2 you need to first work out which of the four alkanes are in the puzzle and then solve it.

name		molecular formula	
ethane			
		C_4H_{10}	
		$\begin{array}{c} H \\ \\ H-C-H \\ \\ H \end{array}$	
	$CH_3CH_2CH_3$		
structural formula		displayed formula	

Gridlock 3

In puzzle 3 you need to first work out which of the four alkanes are in the puzzle and then solve it.

name		molecular formula	
	methane		C_4H_{10}
			CH_4
CH_3CH_3			$\begin{array}{c} H & H & H \\ & & \\ H-C & -C & -C-H \\ & & \\ H & H & H \end{array}$
structural formula		displayed formula	