

gridlocks – can you unlock the grid?

Alkanes

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

Name	Number of carbons	Formula	Displayed formula
methane	1	CH ₄	
ethane	2		$\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$
propane	3	C ₃ H ₈	
butane	4	C ₄ H ₁₀	
pentane	5		
hexane	6		

Gridlock 1

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

name		formula	
methane			C ₄ H ₁₀
	butane	CH ₄	
	C ₃ H ₈	ethane	
formula		name	

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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		formula	
hexane			
		C_4H_{10}	
		<pre> H H H H H H — C — C — C — C — C — H H H H H H </pre>	
	C_3H_8		
	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		displayed formula	
	pentane		<pre> H H H — C — C — H H H </pre>
			<pre> H H H H H H — C — C — C — C — C — H H H H H H </pre>
<pre> H H H H H H H — C — C — C — C — C — H H H H H H H </pre>			C_3H_8
	displayed formula	formula	