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| Son of Molecular MassCλeMis+ry: http://genest.weebly.com Stop in for help every day at lunch and Tues &Thurs after school! |  | Name\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. What is the molecular mass of C4H8?

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| 1. Of all the letters in this square, what percent are X’s?
 | O O H X X O O O X O X H O H |  |

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| Useful information about dried garbanzos: | Each garbanzo weighs 0.6362 grams | A box contains 24 bags of beans |
| Each bag of garbanzos contains 1062 beans | Each bean is 73 protein by mass. |

1. How many beans will there be in 3 bags of garbanzos?
2. What would be the mass of 2.1x10-15 moles of garbanzos?
3. What will be the mass of 13 boxes?
4. How many moles are in 650000000000000000000000000 garbanzo beans?
5. A strong wind has blown a bunch of conversion factors away from Problem #4! Worse still they have lost their numbers! Fill in top and bottom numbers on each. You are only allowed to write in the following numbers: “1”, “6.02x1023”, and anything from the periodic table.

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1. Now, use the conversion factors you created above to solve the following problems below.
	1. $\left(\begin{array}{c}2.80x10^{24}atoms \\of sulfur\end{array}\right) x\left(\frac{ }{}\right)= moles of sulfur$
	2. $\left(\begin{array}{c}0.360 moles \\of sulfur\end{array}\right) x\left(\frac{ }{}\right) = atoms of sulfur$
	3. $\left(\begin{array}{c}2.80x10^{24}atoms \\of sulfur\end{array}\right) x\left(\frac{ }{}\right)x\left(\frac{ }{}\right)= grams of sulfur$

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| 1. If you like the flavor cinnamon, you may be interested to know that its formula is C9H8O2 …
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| If you are curious, the structure of a cinnamon molecule is this:  | According to the periodic table, what is the mass of a mole of this molecule? | A single piece of Trident® gum has about 7.902x1018 cinnamon molecules. What would be the mass of that many molecules of this substance?. |
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1. What would be the mass of 4.77x1014 atoms of helium ?

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| 1. Of all the letters in this square, what percent are H’s?
 | O O H X X O O O X O X H O H |  |