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|  Molecular MassCλeMis+ry Final exams start January 20. See <http://genest.weebly.com>  | http://fc08.deviantart.net/fs71/i/2014/163/3/f/felix_hits_soccer_ball_with_his_head_by_super_marcos_96-d7m1tpa.png | Name\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 1. For water…
 |
| How would you draw one molecule? | According to the periodic table, what is the mass of a mole of this molecule? | Find the mass of 4.05 moles of this molecule. |
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| 1. For nitrogen…
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| How would you draw one molecule? | According to the periodic table, what is the mass of a mole of this molecule? | Find the mass of 1,003,000 molecules of this substance. |

1. What is the “atomic mass” (in daltons) of sodium? \_\_\_\_\_\_\_\_\_\_\_\_ (No calculation necessary )
2. What is the “molar mass” (in grams) of sodium? \_\_\_\_\_\_\_\_\_\_\_\_ (No calculation necessary )
3. What would be the mass of 3.00 moles of calcium ? Show work.
4. How many moles of ears do most people have?

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| 1. For bromine…
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| How would you draw one molecule? | According to the periodic table, what is the mass of a mole of this molecule? | Find the mass of 56.9 moles of this molecule. |

1. What would be the mass of 3.08x1013 atoms of nickel?
2. Which has more particles, 100 grams of neon or 100 grams of argon? Prove it by showing work.

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|  | moles | atoms |  |  |
|  | grams | moles |  |

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| --- | --- | --- | --- | --- |
|  | moles | atoms |  |  |
|  | grams | moles |  |

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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. Which contains fewer atoms, a 3 moles of helium or 3 moles of neon? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the “atomic mass” of a bromine atom? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Points off if you forget units! No calculation necessary )

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| 1. For laughing gas, N2O…
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| How would you draw one molecule? | According to the periodic table, what is the mass of a mole of this molecule? | Find the mass of 4.66x10-2 moles of this molecule. |

1. What is the “molar mass” of silver? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Points off if you forget units! No calculation necessary )
2. What would be the mass of 3.00 moles of sodium ?
3. How many letters are in the word *chemistry?* How many gross of letters is this?

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| 1. For CO2…
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| How would you draw one molecule? | According to the periodic table, what is the mass of a mole of this molecule? | Find the mass of 2.94 x 1017 molecules of this substance.  |