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| *Last new thing for this unit: Using Empirical formula to find actual Molecular Formula*  CλeMis+ry: http://genest.weebly.com  Stop in for help every day at lunch and Tues &Thurs after school! |  | Name\_\_\_\_\_\_\_\_\_\_\_\_\_  Period\_\_\_\_\_\_\_\_\_\_\_\_\_ |

***the test is Thursday***

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| 1. Given info: A colorless, poisonous, sweet-tasting clear liquid has 18.015g C, 4.545g H, and 24.00 g O. It’s molecular weight is 62 g/mole. | Find the empirical formula | |
| Find what the mass would be for a mole of this **empirical** formula. | | Now randomly choose a few integers and multiply your empirical mass by them.  Write the molecular formula here \_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| substance A | C2H4 | C10H40 | 1. The first column shows ( molecular / empirical) formulas. 2. The second column shows ( molecular / empirical) formulas. |
| substance B | C2H2 | C10H10 |
| substance C | C3H4O | C3H4O |

1. What is the % by mass of oxygen in Mg(NO3)2 ?

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| 1. Given info: You buy a used car and in the trunk find an Tupperware tub with a substance. When analyzed it has6.93g of oxygen and 0.43 g of hydrogen. If the molar mass of the compound is 34.0 g/mole, what is the molecular formula? | Find the empirical formula | |
| Find what the mass would be for a mole of this **empirical** formula. | | Now randomly choose a few integers and multiply your empirical mass by them.  Write the molecular formula here \_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. What is the empirical formula of a carbon-oxygen compound, given that a 95.2 g sample of the compound contains 40.8 g of carbon and the rest oxygen?
2. A sample of iron oxide was found to contain 1.116 g of iron and 0.480 g of oxygen. Its molar mass is roughly 5 x as great as that of oxygen gas. Find the empirical formula and the molecular formula of this compound.

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| Key to understanding the cartoons on this sheet: | | | | | |
| 1 chlorine atom | | 1 hydrogen atom | 1 oxygen atom | 1 nitrogen atom | 1 carbon atom |
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|  | 1. Calculate the molecular mass of the molecule shown at the left. | | | | |

1. What is the molecular mass of Fe2(CO3)3.