Week 6 Packet – Regular Chem

This is *hopefully* all the handouts we will use this week in Regular Chem. Due to the challenging logistics of this year, please offer grace if I miss a handout or if things change during the week. **Please note** – You do not *have* to print. I am just providing the option to make things easier for those who want to print. All of these pages are on the class website, always! [www.mychemistryclass.net](http://www.mychemistryclass.net)

**\*I will put the glue ins for the notes on the front and/or back of the packet cover page like this – since you don’t need the cover page for anything you can always just cut these out and glue them in. Trying to save some paper for those of you who are printing! ☺**

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Molar Conversion WS **Calculate how many moles are in the following masses:** 1) 25 g of NaCl  
 2) 125 g of H2SO4**Calculate the mass (in grams) of the following #of moles:**  
 3) 2.5 mol of NaCl  
 4) 0.5 mole of H2SO4**How many molecules are in the following number of moles?**  
 5) 2 moles of NaCl  
 6) 1.5 moles H2SO4  
**How many moles are in the following # of molecules?**  
 7) 3.4 x 1026 of NaCl 8) 7.5 x 1019 of H2SO4**How many molecules are in the following # of grams?** 9) 87 g of NaCl  
 10) 45 g of H2SO4**How many grams are in the following # of molecules?**  
 11) 1.8 x 1028 of NaCl 12) 4.5 x 1015 of H2SO4

**MOLAR MASS WORKSHEET  
Calculate the molar mass.   
Show work for #1-5**

1. Cl2
2. KOH
3. FeCl3
4. (NH4)2SO4
5. Prozac, C17H18F3NO, is   
   a widely used antidepressant that   
   inhibits the uptake of   
   serotonin by the brain.   
   Find its molar mass.

**For #6-14, do them in your   
calculator. You can show   
your work if you would   
like to.**

1. SO2
2. BF3
3. UF6
4. CCl2F2
5. Mg(OH)2
6. H3PO4
7. CH3COOH
8. Pb(NO3)2
9. Ga2(SO3)3

Molar Conversions

Moles 🡪 Grams Grams 🡪 Moles

How many grams does \_\_\_\_\_\_\_\_\_\_moles of NaCl weigh? How many moles are in \_\_\_\_\_\_\_\_\_\_ g of CO2?

Moles 🡪 Molecules   
How many molecules are in \_\_\_\_\_\_\_\_\_\_ moles of H2O?

Molecules 🡪 Moles

How many moles are in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules?

Grams 🡪 Molecules

How many molecules are in \_\_\_\_\_\_\_\_\_\_ grams of H2O?

Molecules 🡪 Grams  
How many grams are in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules of CH4?

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**Remember to trim paper to fit better!**

Dimensional Analysis Review

Perform the following conversions using the dimensional analysis technique. Fill in any portion that is missing

1. Convert 32 g to kg

|  |  |  |
| --- | --- | --- |
| 32 g | 1 kg | = 0.032 kg |
|  | 1000 g |

1. Convert 12.5 mol to molecules

|  |  |  |
| --- | --- | --- |
| 12.5 mol | 6.02 x 1023 molecules | = |
|  | 1 mol |

1. Convert 22.4 L to mL

|  |  |  |
| --- | --- | --- |
| 22.4 L | 1000 mL | = |
|  | 1 L |

1. Convert 5 m to cm

|  |  |  |
| --- | --- | --- |
| 5 m | cm | = |
|  | m |

1. Convert 17 in to ft

|  |  |  |
| --- | --- | --- |
| 17 in |  | = |
|  | in |

1. Convert 1.3 g of H2O to molecules

|  |  |  |  |
| --- | --- | --- | --- |
| 1.3 g |  |  | = |
|  | 18 g |  |

1. Convert 10.3 min to hr

|  |  |  |
| --- | --- | --- |
| 10.3 min |  | = |
|  |  |

1. Convert 7.4 x 1024 molecules to mol

|  |  |  |
| --- | --- | --- |
| molecules | mol | = |
|  | 6.02 x 1023 molecules |

1. Convert 4315 mg of CO2 to moles

|  |  |  |  |
| --- | --- | --- | --- |
|  | g |  | = |
|  | mg |  |

1. Convert 0.82 mL to grams if density is 1.35 g/mL
2. Convert 0.5 m to cm
3. Convert 24 mi/hr to ft/min

|  |  |  |  |
| --- | --- | --- | --- |
| 24 mi | ft | 1 hr | = |
| 1 hr | mi | min |

1. Convert 16 mg/day to g/min
2. Convert 2210 mol of Fe(OH)2 to g
3. Convert 2.68 x 1015 molecules of H2O to atoms

**Page 13**

**Fold and put into the pocket on page 13 as extra practice**

|  |  |  |
| --- | --- | --- |
| Unit #1 – The Atom | **Visual Representation** | |
|  | |
| **Key Items** | **Costa’s Questions** |
|  | **Level 3** |
| **Level 2** |
| **Level 1** |

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**Remember to trim paper to fit better!**

|  |  |  |
| --- | --- | --- |
| Cross Cutting Concepts | | |
| **Systems and models** | **Scale, proportions  and quantity** | **Stability and Change** |
|  |  |  |

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**Glue this in like a pocket! Glue on bottom and left and right edges. NO glue on the top or middle.**