CONVERSION FACTOR WS name:

Directions: Use your lecture notes from the introduction to help you with this worksheet.

CONVERSION FACTOR FOR **MOLE TO MASS**: Calculate the atomic mass for the following and make them into a mole conversion factor.

|  |  |  |
| --- | --- | --- |
| Atom | Conversion factors | |
| Aluminum | 26.9815g of Al  1 mole of Al | 1 mole of Al  26.9815g of Al |
| Calcium |  |  |
| Gold |  |  |
| Nitrogen |  |  |
| Potassium |  |  |

Calculating Molar Mass practice

|  |  |  |  |
| --- | --- | --- | --- |
| Substance | Calculation | Molar Mass Conversion Factors | |
| N2 | 14.0067 + 14.0067 | 28.0134 g of N2  1 mole of N2 | 1 mole of N2  28.0134 g of N2 |
| RbNO3 |  |  |  |
| P4O10 |  |  |  |
| Water |  |  |  |
| Sulfuric Acid |  |  |  |
| Hydophos-phoric Acid |  |  |  |
| Potassium dichromate |  |  |  |
|  |  |  |  |

MOLES TO PARTICLES CONVERSION FACTORS

* Label the **type** of representative particle (rp) each of the substances. Either atom, molecule, ion or formula unit
* Write the chemical formula for each and then state of matter
* Label the number of rp there are in 1 mole of the substance

|  |  |  |  |
| --- | --- | --- | --- |
| Substance | Type of Representative Particle (RP) | Conversion Factors for rp | |
| Lithium Hydroxide dissolved in water. | Ion | 1 mole of LiOH(aq)  6.02 x 1023 ions of LiOH(aq) | 6.02 x 1023 ions of LiOH(aq)  1 mole of LiOH(aq) |
| A solid sample of Nickle. |  |  |  |
| A solid sample of Rubidium Perchlorate. |  |  |  |
| Hydrogen being released in a rxn. |  |  |  |
| Carbon tetrahydride (methane) being released into the atmosphere. |  |  |  |
| An aluminum can |  |  |  |

MOLE TO VOLUME (g):

|  |  |  |
| --- | --- | --- |
| GAS | VOLUME CONVERSION | |
| CO2 (g) | 1 mole of CO2  22.4 L of CO2 | 22.4 L of CO2  1 mole of CO2 |
| H2 (g) |  |  |
| Cl2 (g) |  |  |
| C2H4 (g) |  |  |
| He(g) |  |  |

MOLE TO MOLE CONVERSION FACTORS: Write the mole to mole conversion factors for the balanced chemical equation.

2AgNO3(aq) + Cu(s) 🡪 Cu(NO3)2(aq) + 2Ag(s)

|  |  |
| --- | --- |
| 2 moles of AgNO3  1 mole of Cu | 1 mole of Cu  2 moles of AgNO3 |
|  |  |
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