The Mole Introduction Lecture

**Dimensional Analysis/Significant Figures/Scientific Notation Review**

1. Write the given number
2. Cancel Units
3. Make CORRECT conversion factors

**Example: How many inches is 3 yards?**

**Example: How many yards is 14 inches?**

**Example: What is the mass of 90 average sized apples if 1 dozen of the apples have a mass of 2.0kg?**

**Example: If you have 1.2 x 1012 grains of sand, what would be the amount of sand in grams if each grain of sand weighed 5.3 x 10-5**

**Conversion Factor Introduction: ALL NUMBERS ARE EQUAL TO 1 MOLE**

|  |  |  |  |
| --- | --- | --- | --- |
| **Mass of Atom**  (atomic mass)   * From the periodic table |  |  |  |
| **Mass of Compound**  (molar mass)   * From the periodic table |  |  |  |
| **Representative Particles**  -ATOMS=elements  -MOLECULES=covalent  - FORMULA UNITS-ionic  -IONS=(aq) elements   * **6.02x1023** |  |  |  |
| **Volume**   * 22.4 L of GAS |  |  |  |