Name_____ Date_____

Stoichiometry

CHEMISTRY A

Stoichiometry can be thought of as the math of chemistry. It involves using relationships between reactants and/or products to determine such quantities as mass, moles, and number of atoms. Dimensional analysis is a way to simplify stoichiometric problem solving. In this activity, you will use dimensional analysis in order to count the number of atoms in a given substance.

1. A sample of gold (Au) has a mass of 35.12 g.
    a. Calculate the number of moles of gold (Au) in the sample and record in Table 1. Show your work.

    b. Calculate the number of atoms of gold (Au) in the sample and record in Table 1. Show your work.

2. A sample of table sugar (sucrose, $C_{12}H_{22}O_{11}$) has a mass of 1.202 g.
    a. Calculate the number of moles of $C_{12}H_{22}O_{11}$ contained in the sample and record in Table 1. Show your work.

    b. Calculate the moles of each element in $C_{12}H_{22}O_{11}$ and record in Table 1. Show your work.

    c. Calculate the number of atoms of each type in $C_{12}H_{22}O_{11}$ and record in Table 1. Show your work.

Table 1		
	Au	**$C_{12}H_{22}O_{11}$**
Mass (grams)		
Molar mass (g/mol)		
Moles of each element		**C:** **H:** **O:**
Atoms of each element		**C:** **H:** **O:**