Chemistry: *S'more Chemistry*
An introduction to Stoichiometry

Name_____

Hr_____ Date_____

You have spent a lot of time studying the various types of reactions that can occur in chemistry. You have also become experts in balancing chemical equations.

In this activity, you will be introduced to simple stoichiometry. Stoichiometry is the chemical term to describe calculations that allow us to find the amounts of chemicals involved in a given reaction. *After you finish this worksheet, bring it to your teacher to check your answers, when finished you may make your S'more.*

In stoichiometry, you must always start with a balanced equation! We will use the following balanced recipe (equation):

$$2\,Gc \;+\; 1\,M \;+\; 4\,Cp \longrightarrow 1\,Sm$$
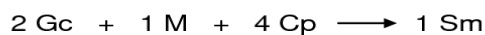
Where: Gc = graham cracker   Cp = chocolate pieces
M = marshmallow   Sm = S'more

1. Notice that to make this recipe you have 7 pieces (reactant) to the left of the arrow and 1 piece (product) to the right. This is supposed to represent a balanced equation, so how can 7 = 1? Explain.

2. If each student is to make one S'more, and I have 20 students, how much of each ingredient will I need? Explain your logic – using a chemical equation.

For questions 3 – 4a, b USE DIMENSIONAL ANALYSIS

3. If I have 20 graham crackers, how many marshmallows and chocolate pieces will I need to make S'mores? How many S'mores can I make?

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4a. You decide to make a large batch of S'mores. You have 85 chocolate pieces. How much of each other ingredient do you need? How many S'mores can you make? Round to the nearest whole number!

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4b. While getting out the ingredients for the above batch you find you have only 30 graham crackers. How does this effect the number of S'mores you can make?

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