

## Chemistry - Stoichiometry

Definition: Study of quantitative relationships of reactants and products in a chemical reaction. Based on the ***Law of Conservation of mass***.

Example:

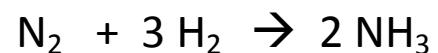
For the following reaction,  $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$

We have the following relationships

Hydrogen	+	Oxygen	→	Water
$2\text{H}_2$	+	$\text{O}_2$	→	$2\text{H}_2\text{O}$
2 molecules $\text{H}_2$	+	1 molecule $\text{O}_2$	→	2 molecules $\text{H}_2\text{O}$
2 moles $\text{H}_2$	+	1 mole $\text{O}_2$	→	2 moles $\text{H}_2\text{O}$
4.00 g hydrogen	+	32.0 g oxygen	→	36.0 g $\text{H}_2\text{O}$
		36.0 g reactants	→	36.0 g products

Writing ratios:

Show all the possible mole to mole ratios within the following balanced chemical equation.



Can you show the mass to mass ratios? This will give proof of the Law of Conservation of mass.