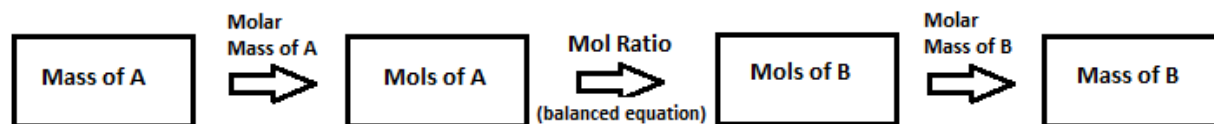


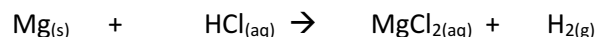
STOICH.1	Balance chemical equations by applying the laws of conservation of mass and constant composition.	9.1
STOICH.3	Use mole ratios to describe the relationship between coefficients and moles in a chemical reaction.	11.1
STOICH.4	Use dimensional analysis to calculate amount of reactants necessary and products produced in terms of moles, grams and particles	11.2

Use Stoichiometry to solve the following problems. Use the conversion chart to help.



****A is starting material and B is ending material****

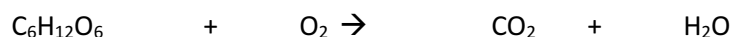
1. Magnesium reacts with hydrochloric acid according to the following chemical equation:



If two moles of hydrochloric acid react with excess magnesium, how many moles of hydrogen gas will be produced?

- What is your starting point? _____
 - What are the units on your starting point? _____
 - What is your ending point? _____
 - What are the units on your ending point? _____
 - Balance the equation.
 - Solve the problem:
2. Aluminum reacts with HCl to produce aluminum chloride and hydrogen gas.
- Write a balanced equation for the reaction.
 - Calculate the number of moles of HCl required to react with 0.87 mols of Al.

3. Glucose ($\text{C}_6\text{H}_{12}\text{O}_6$) combines with oxygen in the body in a combustion reaction to form carbon dioxide and water. Balance the reaction.



How many moles of oxygen are needed to react with the 29 grams of glucose in a Milky Way candy bar?

- What is your starting point? _____
- What are the units on your starting point? _____
- What is your ending point? _____
- What are the units on your ending point? _____
- Solve the problem:

4. Determine the mass of lithium hydroxide produced when 0.38 grams of lithium nitride reacts with water according to the following **unbalanced** chemical equation:



- What is your starting point? _____
 - What are the units on your starting point? _____
 - What is your ending point? _____
 - What are the units on your ending point? _____
 - Balance the equation.
 - Solve the problem:
5. What mass of sodium chloride is produced when chlorine gas reacts with 0.29 grams of sodium iodide? The **unbalanced** chemical equation is given below:
- $$\text{NaI}_{(\text{s})} + \text{Cl}_{2(\text{g})} \rightarrow \text{NaCl}_{(\text{s})} + \text{I}_{2(\text{g})}$$
6. Determine the mass of carbon dioxide produced when 0.85 grams of butane (C_4H_{10}) undergoes a combustion reaction with oxygen to produce carbon dioxide and water. Start by writing out the balanced equation.
7. Hydrogen peroxide *decomposed* to produce oxygen gas and water. What mass of hydrogen peroxide (H_2O_2) must decompose to produce 0.77 grams of water?
8. Nickel (II) nitrate reacts with sodium hydroxide to produce nickel (II) hydroxide and sodium nitrate. If 0.73 grams of nickel (II) nitrate is used in the reaction, determine the mass of sodium nitrate produced.