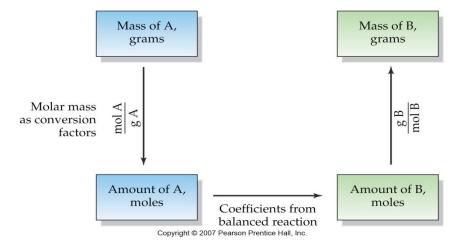
How to use reaction stoichiometry

- 1. Write and balance the chemical equation for the reaction.
- 2. Determine molar masses of substances involved in the calculation.
- 3. Use the coefficients of the balanced equation to convert the moles of the given substance to the moles of the desired substance.
- 4. Use the molar mass to convert the moles of the desired substance to grams of the desired substance.



Examples:

1. If we react 100 grams of CH₃OH, how many grams of H₂O are formed?

$$2 \text{ CH}_3\text{OH} + 3 \text{ O}_2 \rightarrow 2 \text{ CO}_2 + 4 \text{ H}_2\text{O}$$

2. Consider the following reaction:

$$Pb(NO_3)_2(aq) + 2 NaCl(aq) --> PbCl_2(s) + 2 NaNO_3(aq)$$

If you have 5 moles of Pb(NO₃)₂, how many moles of PbCl₂ can you make?

If you have 5 moles of NaCl, how many moles of PbCl₂ can you make?