## Mass to Mass Stoichiometry Problems

In the following problems, calculate how much of the indicated product is made. Show all your work.

1) $\mathrm{LiOH}+\mathrm{HBr} \rightarrow \mathrm{LiBr}+\mathrm{H}_{2} \mathrm{O}$

If you start with 10.0 grams of lithium hydroxide, how many grams of lithium bromide will be produced?
2) $\mathrm{C}_{2} \mathrm{H}_{4}+3 \mathrm{O}_{2} \rightarrow 2 \mathrm{CO}_{2}+2 \mathrm{H}_{2} \mathrm{O}$

If you start with 45 grams of ethylene $\left(\mathrm{C}_{2} \mathrm{H}_{4}\right)$, how many grams of carbon dioxide will be produced?
3) $\mathrm{Mg}+2 \mathrm{NaF} \rightarrow \mathrm{MgF}_{2}+2 \mathrm{Na}$

If you start with 5.5 grams of sodium fluoride, how many grams of magnesium fluoride will be produced?
4) $\quad 2 \mathrm{HCl}+\mathrm{Na}_{2} \mathrm{SO}_{4} \rightarrow 2 \mathrm{NaCl}+\mathrm{H}_{2} \mathrm{SO}_{4}$

If you start with 20 grams of hydrochloric acid, how many grams of sulfuric acid will be produced?

## Mass to Mass Stoichiometry Problems - Answer Key

In the following problems, calculate how much of the indicated product is made. Show all your work.

1) $\mathrm{LiOH}+\mathrm{HBr} \rightarrow \mathrm{LiBr}+\mathrm{H}_{2} \mathrm{O}$

If you start with 10.0 grams of lithium hydroxide, how many grams of lithium bromide will be produced? 36.3 grams
2) $\mathrm{C}_{2} \mathrm{H}_{4}+3 \mathrm{O}_{2} \rightarrow 2 \mathrm{CO}_{2}+2 \mathrm{H}_{2} \mathrm{O}$

If you start with 45 grams of ethylene $\left(\mathrm{C}_{2} \mathrm{H}_{4}\right)$, how many grams of carbon dioxide will be produced? 140 grams
3) $\mathrm{Mg}+2 \mathrm{NaF} \rightarrow \mathrm{MgF}_{2}+2 \mathrm{Na}$

If you start with 5.5 grams of sodium fluoride, how many grams of magnesium fluoride will be produced? 4.1 grams
4) $2 \mathrm{HCl}+\mathrm{Na}_{2} \mathrm{SO}_{4} \rightarrow 2 \mathrm{NaCl}+\mathrm{H}_{2} \mathrm{SO}_{4}$

If you start with 20 grams of hydrochloric acid, how many grams of sulfuric acid will be produced? 30 grams (rounded from 27 grams for significant figures)

