

Stoichiometry Review Worksheet

1) Use $2\text{Al} + 6\text{HCl} \rightarrow 3\text{H}_2 + 2\text{AlCl}_3$ & solve:

- If 162.5 grams Al reacts, how many grams H_2 is produced?
- If 12.5 mol HCl reacts, how many grams AlCl_3 is produced?
- If 5.34 g H_2 are formed, how many moles of Al reacted?
- If 6.13 moles of Al react, how many moles of HCl need to react?

2) Use $4\text{NH}_3 + 5\text{O}_2 \rightarrow 4\text{NO} + 6\text{H}_2\text{O}$ & solve:

- How many moles of NH_3 are needed to create 8.46 moles of H_2O ?
- How many moles of O_2 are produced from 3.68 grams of NO?
- How many grams of NH_3 are needed to form 2.73 moles of NO?
- How many grams of H_2O are produced from 43.1 grams of NH_3 ?

3) **Balance** $\text{Cu}_2\text{O} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$ & solve:

- How many g of Cu can be created when 32.0 g of Cu_2O is used?
- How many moles of H_2 is needed to produce 43.81 grams of H_2O ?
- If 62.12 g of H_2 reacts, how many moles of Cu are produced?
- If 4.21 mol of H_2O are produced, how many moles H_2 are reacted?

4) Use $2\text{HClO}_2 \rightarrow \text{H}_2 + \text{Cl}_2 + 2\text{O}_2$ & solve:

- How many grams of Cl_2 are produced from 1.24 moles HClO_2 ?
- How many grams of H_2 are produced from 4.23 grams HClO_2 ?
- How many moles of O_2 are formed with 44.12 grams H_2 ?
- If 4.21 moles HClO_2 react, how many moles O_2 are produced?

5) Use $\text{Pb}(\text{NO}_3)_2 + 2\text{KI} \rightarrow \text{PbI}_2 + 2\text{KNO}_3$ & solve:

- How many moles of KNO_3 are produced from 500 g $\text{Pb}(\text{NO}_3)_2$?
- How many grams of KI are needed to make 7.12 moles of PbI_2 ?
- How many grams of PbI_2 are created from 91.3 grams of $\text{Pb}(\text{NO}_3)_2$?
- How many moles of KI are reacted to form 16.75 g KNO_3 ?

6) **Balance** $\text{C}_4\text{H}_{10} + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$ & solve:

- If 7.54 mol of CO_2 are produced, how many moles of O_2 reacted?
- If 92.75 g of H_2O are produced, how many moles of C_4H_{10} reacted?
- If 3.45 moles of O_2 react, how many grams of CO_2 are produced?
- If 52.3 grams of C_4H_{10} react, how many grams of H_2O are produced?