

**Balancing Chemical Equations
Worksheet #2**

Balance the following reactions by adding coefficients where necessary.

1. $5 \text{C} + 2 \text{SO}_2 \rightarrow \text{CS}_2 + 4 \text{CO}$
2. $2 \text{ZnS} + 3 \text{O}_2 \rightarrow 2 \text{ZnO} + 2 \text{SO}_2$
3. $2 \text{Na}_3\text{PO}_4 + 3 \text{CaCl}_2 \rightarrow \text{Ca}_3(\text{PO}_4)_2 + 6 \text{NaCl}$
4. $\text{Al}_2(\text{SO}_4)_3 + 3 \text{Ba}(\text{NO}_3)_2 \rightarrow 3 \text{BaSO}_4 + 2 \text{Al}(\text{NO}_3)_3$
5. $4 \text{Al} + 3 \text{O}_2 \rightarrow 2 \text{Al}_2\text{O}_3$
6. $3 \text{Ca} + 2 \text{H}_3\text{PO}_4 \rightarrow \text{Ca}_3(\text{PO}_4)_2 + 3 \text{H}_2$
7. $2 \text{Na}_2\text{SO}_3 + \text{O}_2 \rightarrow 2 \text{Na}_2\text{SO}_4$
8. $\text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 2 \text{C}_2\text{H}_5\text{OH} + 2 \text{CO}_2$
9. $\text{Na}_2\text{CO}_3 + 2 \text{HCl} \rightarrow 2 \text{NaCl} + \text{H}_2\text{O} + \text{CO}_2$
10. $4 \text{NH}_3 + 5 \text{O}_2 \rightarrow 4 \text{NO} + 6 \text{H}_2\text{O}$
11. $\text{Al}_2(\text{SO}_4)_3 + 6 \text{NaOH} \rightarrow 2 \text{Al}(\text{OH})_3 + 3 \text{Na}_2\text{SO}_4$
12. $4 \text{FeS}_2 + 11 \text{O}_2 \rightarrow 2 \text{Fe}_2\text{O}_3 + 8 \text{SO}_2$
13. $3 \text{Mg}(\text{OH})_2 + 2 \text{H}_3\text{PO}_4 \rightarrow \text{Mg}_3(\text{PO}_4)_2 + 6 \text{H}_2\text{O}$
14. $2 \text{C}_2\text{H}_2 + 5 \text{O}_2 \rightarrow 4 \text{CO}_2 + 2 \text{H}_2\text{O}$
15. $\text{Cl}_2\text{O}_7 + \text{H}_2\text{O} \rightarrow 2 \text{HClO}_4$
16. $\text{Ca}_3(\text{PO}_4)_2 + 3 \text{H}_2\text{SO}_4 \rightarrow 3 \text{CaSO}_4 + 2 \text{H}_3\text{PO}_4$
17. $\text{Al}_2\text{S}_3 + 6 \text{H}_2\text{O} \rightarrow 2 \text{Al}(\text{OH})_3 + 3 \text{H}_2\text{S}$
18. $3 \text{Fe} + 4 \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4 \text{H}_2$
19. $\text{Al}_2\text{O}_3 + 6 \text{HNO}_3 \rightarrow 2 \text{Al}(\text{NO}_3)_3 + 3 \text{H}_2\text{O}$
20. $\text{Hg} + 2 \text{NH}_4\text{I} \rightarrow \text{HgI}_2 + \text{H}_2 + 2 \text{NH}_3$