

WORKSHEET: BALANCING EQUATIONS

Balance the following equations by placing small whole-number coefficients in the appropriate places.

Synthesis

1. $\underline{\hspace{1cm}} \text{Ba} + \underline{\hspace{1cm}} \text{O}_2 \rightarrow \underline{\hspace{1cm}} \text{BaO}$
2. $\underline{\hspace{1cm}} \text{C} + \underline{\hspace{1cm}} \text{S} \rightarrow \underline{\hspace{1cm}} \text{CS}_2$
3. $\underline{\hspace{1cm}} \text{Li} + \underline{\hspace{1cm}} \text{O}_2 \rightarrow \underline{\hspace{1cm}} \text{Li}_2\text{O}$
4. $\underline{\hspace{1cm}} \text{Mg} + \underline{\hspace{1cm}} \text{N}_2 \rightarrow \underline{\hspace{1cm}} \text{Mg}_3\text{N}_2$
5. $\underline{\hspace{1cm}} \text{FeCl}_2 + \underline{\hspace{1cm}} \text{Cl}_2 \rightarrow \underline{\hspace{1cm}} \text{FeCl}_3$

Decomposition or Analysis

6. $\underline{\hspace{1cm}} \text{KClO}_3 \rightarrow \underline{\hspace{1cm}} \text{KCl} + \underline{\hspace{1cm}} \text{O}_2$
7. $\underline{\hspace{1cm}} \text{Ag}_2\text{O} \rightarrow \underline{\hspace{1cm}} \text{Ag} + \underline{\hspace{1cm}} \text{O}_2$
8. $\underline{\hspace{1cm}} \text{CuCO}_3 \rightarrow \underline{\hspace{1cm}} \text{CuO} + \underline{\hspace{1cm}} \text{CO}_2$
9. $\underline{\hspace{1cm}} \text{AuBr}_3 \rightarrow \underline{\hspace{1cm}} \text{Au} + \underline{\hspace{1cm}} \text{Br}_2$
10. $\underline{\hspace{1cm}} \text{UF}_4 \rightarrow \underline{\hspace{1cm}} \text{U} + \underline{\hspace{1cm}} \text{F}_2$

Single Replacement

11. $\underline{\hspace{1cm}} \text{Zn} + \underline{\hspace{1cm}} \text{HCl} \rightarrow \underline{\hspace{1cm}} \text{ZnCl}_2 + \underline{\hspace{1cm}} \text{H}_2$
12. $\underline{\hspace{1cm}} \text{Zn} + \underline{\hspace{1cm}} \text{CuSO}_4 \rightarrow \underline{\hspace{1cm}} \text{ZnSO}_4 + \underline{\hspace{1cm}} \text{Cu}$
13. $\underline{\hspace{1cm}} \text{Cu} + \underline{\hspace{1cm}} \text{AgNO}_3 \rightarrow \underline{\hspace{1cm}} \text{Cu}(\text{NO}_3)_2 + \underline{\hspace{1cm}} \text{Ag}$
14. $\underline{\hspace{1cm}} \text{K} + \underline{\hspace{1cm}} \text{H}_2\text{O} \rightarrow \underline{\hspace{1cm}} \text{KOH} + \underline{\hspace{1cm}} \text{H}_2$
15. $\underline{\hspace{1cm}} \text{Al} + \underline{\hspace{1cm}} \text{CuCl}_2 \rightarrow \underline{\hspace{1cm}} \text{AlCl}_3 + \underline{\hspace{1cm}} \text{Cu}$

Double Replacement

16. $\underline{\hspace{1cm}} \text{BaCl}_2 + \underline{\hspace{1cm}} \text{Na}_2\text{SO}_4 \rightarrow \underline{\hspace{1cm}} \text{NaCl} + \underline{\hspace{1cm}} \text{BaSO}_4$
17. $\underline{\hspace{1cm}} \text{ZnCl}_2 + \underline{\hspace{1cm}} (\text{NH}_4)_2\text{S} \rightarrow \underline{\hspace{1cm}} \text{NH}_4\text{Cl} + \underline{\hspace{1cm}} \text{ZnS}$
18. $\underline{\hspace{1cm}} \text{NaOH} + \underline{\hspace{1cm}} \text{HCl} \rightarrow \underline{\hspace{1cm}} \text{NaCl} + \underline{\hspace{1cm}} \text{H}_2\text{O}$
19. $\underline{\hspace{1cm}} \text{FeS} + \underline{\hspace{1cm}} \text{HCl} \rightarrow \underline{\hspace{1cm}} \text{FeCl}_2 + \underline{\hspace{1cm}} \text{H}_2\text{S}$
20. $\underline{\hspace{1cm}} \text{AlCl}_3 + \underline{\hspace{1cm}} \text{NaOH} \rightarrow \underline{\hspace{1cm}} \text{Al}(\text{OH})_3 + \underline{\hspace{1cm}} \text{NaCl}$

Combustion

21. $\underline{\hspace{1cm}} \text{CH}_4 + \underline{\hspace{1cm}} \text{O}_2 \rightarrow \underline{\hspace{1cm}} \text{CO}_2 + \underline{\hspace{1cm}} \text{H}_2\text{O}$
22. $\underline{\hspace{1cm}} \text{C}_2\text{H}_6 + \underline{\hspace{1cm}} \text{O}_2 \rightarrow \underline{\hspace{1cm}} \text{CO}_2 + \underline{\hspace{1cm}} \text{H}_2\text{O}$
23. $\underline{\hspace{1cm}} \text{C}_3\text{H}_6 + \underline{\hspace{1cm}} \text{O}_2 \rightarrow \underline{\hspace{1cm}} \text{CO}_2 + \underline{\hspace{1cm}} \text{H}_2\text{O}$
24. $\underline{\hspace{1cm}} \text{C}_4\text{H}_8 + \underline{\hspace{1cm}} \text{O}_2 \rightarrow \underline{\hspace{1cm}} \text{CO}_2 + \underline{\hspace{1cm}} \text{H}_2\text{O}$
25. $\underline{\hspace{1cm}} \text{C}_5\text{H}_{10} + \underline{\hspace{1cm}} \text{O}_2 \rightarrow \underline{\hspace{1cm}} \text{CO}_2 + \underline{\hspace{1cm}} \text{H}_2\text{O}$

Identify and write a balanced equation for each of the following word equations.

