

The Balancing Act

Answer the following questions as true or false based on your previous knowledge of Chemistry to date.

- _____ 1. Chemistry is an international language
- _____ 2. Chemical reactions can be represented by word equations only.
- _____ 3. The amount of matter before the reaction and after the reaction can be different
- _____ 4. The compounds used to begin the reaction are called reactants
- _____ 5. After the reaction is complete, products are left.
- _____ 6. If there is an imbalance between the number of molecules on the left and right side of the equation, you can change the chemical formulas.
- _____ 7. A balanced chemical equation is when the reactants and products contain equal numbers of atoms of each type.
- _____ 8. A skeleton equation is a representation of a reaction using words.
- _____ 9. The first step in balancing an equation is to write out the full equation.
- _____ 10. We can describe chemical reactions in symbolic form.

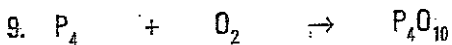
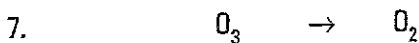
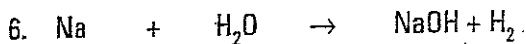
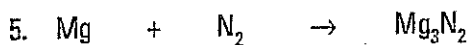
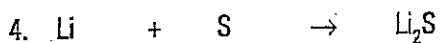
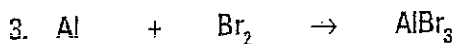
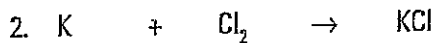
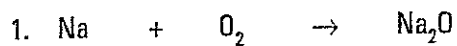
Balancing Chemical Reactions

On a Separate Piece of Paper, Balance the following reactions:

1. $\text{HgO} \rightarrow \text{Hg} + \text{O}_2$
2. $\text{H}_2\text{O} \rightarrow \text{H}_2 + \text{O}_2$
3. $\text{Al} + \text{Pb}(\text{NO}_3)_2 \rightarrow \text{Al}(\text{NO}_3)_3 + \text{Pb}$
4. $\text{Cu} + \text{AgNO}_3 \rightarrow \text{Cu}(\text{NO}_3)_2 + \text{Ag}$
5. $\text{K} + \text{H}_2\text{O} \rightarrow \text{KOH} + \text{H}_2$
6. $\text{MnO}_2 + \text{HCl} \rightarrow \text{MnCl}_2 + \text{Cl}_2 + \text{H}_2\text{O}$
7. $\text{Cl}_2 + \text{LiI} \rightarrow \text{LiCl} + \text{I}_2$
8. $\text{F}_2 + \text{H}_2\text{O} \rightarrow \text{HF} + \text{O}_2$
9. $\text{AgNO}_3 + \text{K}_2\text{SO}_4 \rightarrow \text{Ag}_2\text{SO}_4 + \text{KNO}_3$
10. $\text{Ni} + \text{HCl} \rightarrow \text{NiCl}_2 + \text{H}_2$
11. $\text{Ca}(\text{OH})_2 + \text{HCl} \rightarrow \text{CaCl}_2 + \text{H}_2\text{O}$
12. $\text{Cl}_2 + \text{NaBr} \rightarrow \text{Br}_2 + \text{NaCl}$
13. $\text{Cr}_2\text{O}_3 \rightarrow \text{Cr} + \text{O}_2$
14. $\text{Fe} + \text{HCl} \rightarrow \text{FeCl}_3 + \text{H}_2$
15. $\text{C}_3\text{H}_6 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
16. $\text{P}_4 + \text{F}_2 \rightarrow \text{PF}_3$
17. $\text{Ca}(\text{NO}_3)_2 + \text{KOH} \rightarrow \text{Ca}(\text{OH})_2 + \text{KNO}_3$
18. $\text{KHCO}_3 \rightarrow \text{K}_2\text{CO}_3 + \text{H}_2\text{O} + \text{CO}_2$
19. $\text{H}_3\text{PO}_4 + \text{NaOH} \rightarrow \text{Na}_3\text{PO}_4 + \text{H}_2\text{O}$
20. $\text{Ca}(\text{NO}_3)_2 + \text{Na}_3\text{PO}_4 \rightarrow \text{Ca}_3(\text{PO}_4)_2 + \text{NaNO}_3$
21. $\text{Cu} + \text{HNO}_3 \rightarrow \text{Cu}(\text{NO}_3)_2 + \text{NO}_2 + \text{H}_2\text{O}$
22. $\text{Sn} + \text{KOH} \rightarrow \text{K}_2\text{SnO}_2 + \text{H}_2$
23. $\text{SiF}_4 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{SiF}_6 + \text{H}_2\text{SiO}_3$

Balancing Equations Worksheet

A. Balance the following equations.



B. Write and balance the following word equations.

1. iron + oxygen \rightarrow iron(III) oxide

2. nitrogen + hydrogen \rightarrow ammonia (NH_3)

3. barium chloride + magnesium sulfate \rightarrow barium sulfate + magnesium chloride
