



BALANCE THE GIVEN CHEMICAL EQUATIONS

Worksheet - 49

1. $\text{HClO}_4 + \text{P}_4\text{O}_{10} = 4 \text{H}_3\text{PO}_4 + \text{Cl}_2\text{O}_7$
2. $9 \text{CH}_4 + \text{NCl}_6 = \text{CCl}_4 + 6 \text{H}_6 + \text{N}_6$
3. $\text{Cu} + \text{HNO}_3 = \text{NO}_2 + 2 \text{H}_2\text{O} + \text{Cu}(\text{NO}_3)_2$
4. $16 \text{H}^{(+)} + \text{MnO}_4^{(-)} + 13 \text{e} = \text{Mn}_2^{(+)} + \text{H}_2\text{O}$
5. $\text{Ca}(\text{OH})_2 + \text{CH}_3\text{COOH} = \text{Ca}(\text{CH}_3\text{COO})_2 + \text{H}_2\text{O}$
6. $2 \text{Na}_3\text{PO}_4 + \text{Ca}(\text{OH})_2 = \text{Ca}_3(\text{PO}_4)_2 + \text{NaOH}$
7. $\text{NO}_2 = \text{N}_2 + \text{O}_2$
8. $\text{H}_3\text{PO}_4 + \text{KOH} = \text{H}_2\text{O} + \text{K}_3\text{PO}_4$
9. $\text{N}_2\text{O} + \text{H}_2 = \text{NH}_3 + \text{H}_2\text{O}$
10. $\text{N}_2 + \text{F}_2 = \text{NF}_3$
11. $(\text{NH}_4)_2\text{SO}_4 + \text{KOH} = \text{K}_2\text{SO}_4 + \text{NH}_3 + 2 \text{H}_2\text{O}$
12. $\text{Ca}_3\text{P}_2 + \text{H}_2\text{O} = \text{Ca}(\text{OH})_2 + 2 \text{PH}_3$
13. $2 \text{Al} + \text{HCl} = \text{AlCl}_3 + 3 \text{H}_2$
14. $\text{NH}_3 + 5 \text{O}_2 = \text{NO} + 6 \text{H}_2\text{O}$
15. $2 \text{AlBr}_3 + \text{K}_2\text{SO}_4 = \text{KBr} + \text{Al}_2(\text{SO}_4)_3$
16. $\text{Al}_2(\text{SO}_4)_3 + \text{BaCl}_2 = \text{AlCl}_3 + 3 \text{BaSO}_4$
17. $\text{Pb} + \text{O}_2 + 2 \text{H}_2\text{O} = \text{Pb}(\text{OH})_2$
18. $2 \text{K} + \text{N}_2 = \text{KN}_3$
19. $\text{Al} + 3 \text{H}_2\text{SO}_4 = \text{Al}_2(\text{SO}_4)_3 + \text{H}_2$
20. $\text{HClO} = \text{HCl} + \text{HClO}_3$



ANSWERS

1. $12 \text{ HClO}_4 + \text{P}_4\text{O}_{10} = 4 \text{ H}_3\text{PO}_4 + 6 \text{ Cl}_2\text{O}_7$
2. $9 \text{ CH}_4 + 6 \text{ NCl}_6 = 9 \text{ CCl}_4 + 6 \text{ H}_6 + \text{N}_6$
3. $\text{Cu} + 4 \text{ HNO}_3 = 2 \text{ NO}_2 + 2 \text{ H}_2\text{O} + \text{Cu}(\text{NO}_3)_2$
4. $16 \text{ H}^{(+)} + 2 \text{ MnO}_4^{(-)} + 13 \text{ e} = \text{Mn}_2^{(+)} + 8 \text{ H}_2\text{O}$
5. $\text{Ca}(\text{OH})_2 + 2 \text{ CH}_3\text{COOH} = \text{Ca}(\text{CH}_3\text{COO})_2 + 2 \text{ H}_2\text{O}$
6. $2 \text{ Na}_3\text{PO}_4 + 3 \text{ Ca}(\text{OH})_2 = \text{Ca}_3(\text{PO}_4)_2 + 6 \text{ NaOH}$
7. $2 \text{ NO}_2 = \text{N}_2 + 2 \text{ O}_2$
8. $\text{H}_3\text{PO}_4 + 3 \text{ KOH} = 3 \text{ H}_2\text{O} + \text{K}_3\text{PO}_4$
9. $\text{N}_2\text{O} + 4 \text{ H}_2 = 2 \text{ NH}_3 + \text{H}_2\text{O}$
10. $\text{N}_2 + 3 \text{ F}_2 = 2 \text{ NF}_3$
11. $(\text{NH}_4)_2\text{SO}_4 + 2 \text{ KOH} = \text{K}_2\text{SO}_4 + 2 \text{ NH}_3 + 2 \text{ H}_2\text{O}$
12. $\text{Ca}_3\text{P}_2 + 6 \text{ H}_2\text{O} = 3 \text{ Ca}(\text{OH})_2 + 2 \text{ PH}_3$
13. $2 \text{ Al} + 6 \text{ HCl} = 2 \text{ AlCl}_3 + 3 \text{ H}_2$
14. $4 \text{ NH}_3 + 5 \text{ O}_2 = 4 \text{ NO} + 6 \text{ H}_2\text{O}$
15. $2 \text{ AlBr}_3 + 3 \text{ K}_2\text{SO}_4 = 6 \text{ KBr} + \text{Al}_2(\text{SO}_4)_3$
16. $\text{Al}_2(\text{SO}_4)_3 + 3 \text{ BaCl}_2 = 2 \text{ AlCl}_3 + 3 \text{ BaSO}_4$
17. $2 \text{ Pb} + \text{O}_2 + 2 \text{ H}_2\text{O} = 2 \text{ Pb}(\text{OH})_2$
18. $2 \text{ K} + 3 \text{ N}_2 = 2 \text{ KN}_3$
19. $2 \text{ Al} + 3 \text{ H}_2\text{SO}_4 = \text{Al}_2(\text{SO}_4)_3 + 3 \text{ H}_2$
20. $3 \text{ HClO} = 2 \text{ HCl} + \text{HClO}_3$



Thanks for downloading our free printable.

We have thousands of such resources in our blog for teachers and parents.

[You can download them for free here!](#)

Free Printables from Go Science Girls – Fair Usage Policy

You can ...

- Download and save this free printable from gosciencegirls.com to your computer.
- Print this file and use it as many times as you want in your home, classrooms or for your library.
- Feel free to link our blog post where your visitors can find and download this printable for free.
- When you post online about this resource – please give due credit to gosciencegirls.com

You Cannot ...

- Access this file or download it from other sites apart from gosciencegirls.com
- Other websites cannot link to this pdf directly. If required, they are welcomed to link to the blog post from where this pdf can be downloaded.
- The ownership of this pdf rests with GoScienceGirls. No one can claim ownership for this file.
- You are not allowed to sell printed copies of this file to others.
- You are not allowed to store this file electronically and redistribute it (only personal use is allowed).

Further Questions?

Feel free to email us at contactgosciencegirls@gmail.com for any further questions and suggestions. We would love to hear from you. We promise to respond back as soon as we can.