

Worksheet Balancing Word Equations Chapter 10
(Remember the following are diatomic: H₂, N₂, O₂, F₂, Cl₂, Br₂, I₂)

The coefficients should add up to the number at the end that is in parenthesis.

1. carbon + oxygen → carbon dioxide (0)
2. copper + silver nitrate → copper(II) nitrate + silver (4)
3. zinc + copper(II) sulfate → zinc sulfate + copper (0)
4. mercury(II) nitrate + ammonium sulfide → mercury(II) sulfide + ammonium nitrate (2)
5. iron(III) hydroxide → iron(III) oxide + water (5)
6. water → hydrogen + oxygen (4)
7. copper(II) nitrate + water → hydrogen nitrate + copper(II) hydroxide (4)
8. phosphorus + oxygen → diphosphorous pentoxide (11)
9. iron + hydrochloric acid → iron(II) chloride + hydrogen (2)
10. sodium hydroxide + phosphoric acid → sodium phosphate + water (6)
11. antimony + chlorine → antimony trichloride (7)
12. sodium chlorate → sodium chloride + oxygen (7)
13. sodium carbonate + water → sodium oxide + hydrogen carbonate (0)
14. silver + sulfur → silver sulfide (2)
15. potassium + water → potassium hydroxide + hydrogen (6)
16. barium chloride + magnesium sulfate → barium sulfate + magnesium chloride (0)
17. sodium bromide + chlorine → sodium chloride + bromine (4)
18. ammonium carbonate → ammonia (NH₃) + carbonic acid(2)
19. calcium carbonate + hydrochloric acid → calcium chloride + hydrogen carbonate (2)
20. zinc chloride + phosphoric acid → zinc phosphate + hydrogen chloride (11)
21. mercury(II) oxide → mercury + oxygen(4)
22. sodium sulfite + acetic acid → hydrogen sulfite + sodium acetate (4)
23. ammonium nitrate + potassium hydroxide → ammonium hydroxide + potassium nitrate (0)
24. silver sulfate + aluminum chloride → silver chloride + aluminum sulfate (11)
25. barium sulfide + water → barium oxide + hydrogen sulfide (0)

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The coefficients should add up to the number at the end that is in parenthesis.

1. carbon + oxygen → carbon dioxide (0)
 $C + O_2 \rightarrow CO_2$
2. copper + silver nitrate → copper(II) nitrate + silver (4)
 $Cu + 2 AgNO_3 \rightarrow Cu(NO_3)_2 + 2Ag$
3. zinc + copper(II) sulfate → zinc sulfate + copper (0)
 $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$
4. mercury(II) nitrate + ammonium sulfide → mercury(II) sulfide + ammonium nitrate (2)
 $Hg(NO_3)_2 + (NH_4)_2S \rightarrow HgS + 2 NH_4NO_3$
5. iron(III) hydroxide → iron(III) oxide + water (5)
 $2 Fe(OH)_3 \rightarrow Fe_2O_3 + 3 H_2O$
6. water → hydrogen + oxygen (4)
 $2 H_2O \rightarrow 2 H_2 + O_2$
7. copper(II) nitrate + water → hydrogen nitrate + copper(II) hydroxide (4)
 $Cu(NO_3)_2 + 2 H_2O \rightarrow 2 HNO_3 + Cu(OH)_2$
8. phosphorus + oxygen → diphosphorous pentoxide (11)
 $4 P + 5 O_2 \rightarrow 2P_2O_5$
9. iron + hydrochloric acid → iron(II) chloride + hydrogen (2)
 $Fe + 2 HCl \rightarrow FeCl_2 + H_2$
10. sodium hydroxide + phosphoric acid → sodium phosphate + water (6)
 $3NaOH + H_3PO_4 \rightarrow Na_3PO_4 + 3 H_2O$
11. antimony + chlorine → antimony trichloride (7)
 $2 Sb + 3 Cl_2 \rightarrow 2 SbCl_3$
12. sodium chlorate → sodium chloride + oxygen (7)
 $2 NaClO_3 \rightarrow 2 NaCl + 3 O_2$
13. sodium carbonate + water → sodium oxide + hydrogen carbonate (0)
 $Na_2CO_3 + H_2O \rightarrow Na_2O + H_2CO_3$
14. silver + sulfur → silver sulfide (2)
 $2Ag + S \rightarrow Ag_2S$
15. potassium + water → potassium hydroxide + hydrogen (6)
 $2 K + 2 H_2O \rightarrow 2 KOH + H_2$
16. barium chloride + magnesium sulfate → barium sulfate + magnesium chloride (0)
 $BaCl_2 + MgSO_4 \rightarrow BaSO_4 + MgCl_2$
17. sodium bromide + chlorine → sodium chloride + bromine (4)
 $2 NaBr + Cl_2 \rightarrow 2 NaCl + Br_2$
18. ammonium carbonate → ammonia (NH₃) + carbonic acid(2)
 $(NH_4)_2CO_3 \rightarrow 2 NH_3 + H_2CO_3$
19. calcium carbonate + hydrochloric acid → calcium chloride + hydrogen carbonate (2)
 $CaCO_3 + 2 HCl \rightarrow 2 NH_3 + H_2CO_3$
20. zinc chloride + phosphoric acid → zinc phosphate + hydrogen chloride (11)
 $3 ZnCl_2 + 2 H_3PO_4 \rightarrow Zn_3(PO_4)_2 + 6 HCl$
21. mercury(II) oxide → mercury + oxygen(4)
 $2 HgO \rightarrow 2 Hg + O_2$
22. sodium sulfite + acetic acid → hydrogen sulfite + sodium acetate (4)
 $Na_2SO_3 + 2 HC_2H_3O_2 \rightarrow H_2SO_3 + 2 NaC_2H_3O_2$
23. ammonium nitrate + potassium hydroxide → ammonium hydroxide + potassium nitrate (0)
 $NH_4NO_3 + KOH \rightarrow NH_4OH + KNO_3$
24. silver sulfate + aluminum chloride → silver chloride + aluminum sulfate (11)
 $3 Ag_2SO_4 + 2 AlCl_3 \rightarrow 6 AgCl + Al_2(SO_4)_3$
25. barium sulfide + water → barium oxide + hydrogen sulfide (0)
 $BaS + H_2O \rightarrow BaO + H_2S$

1. $C + O_2 \rightarrow CO_2$
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6. $2 H_2O \rightarrow 2 H_2 + O_2$
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17. $2 NaBr + Cl_2 \rightarrow 2 NaCl + Br_2$
18. $(NH_4)_2CO_3 \rightarrow 2 NH_3 + H_2CO_3$
19. $CaCO_3 + 2 HCl \rightarrow 2 NH_3 + H_2CO_3$
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