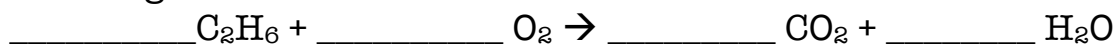


Part A: Balancing Act Practice

1. 2 Na + 1 MgF₂ → 2 NaF + 1 Mg
2. 1 Mg + 2 HCl → 1 MgCl₂ + 2 H₂
3. 2 Cl₂ + 2 KI → 2 KCl + 2 I₂
4. 2 NaCl → 2 Na + 1 Cl₂
5. 4 Na + 1 O₂ → 2 Na₂O
6. 2 Na + 2 HCl → 1 H₂ + 2 NaCl
7. 2 K + 1 Cl₂ → 2 KCl

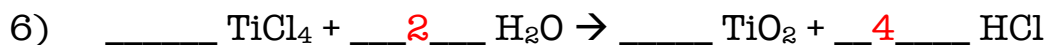
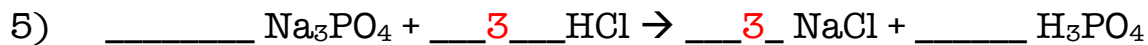
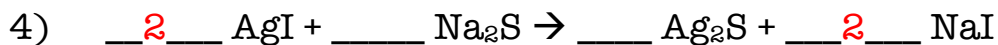
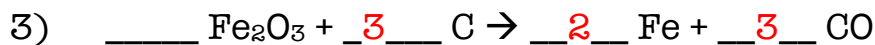
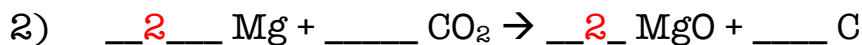
Challenge:



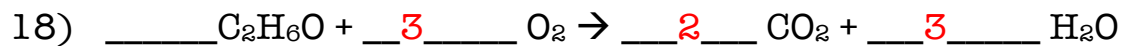
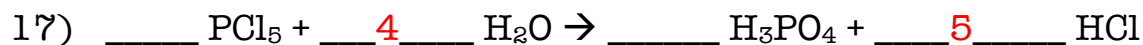
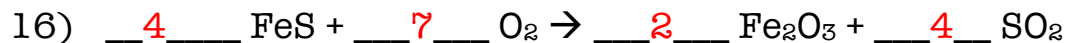
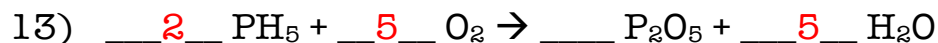
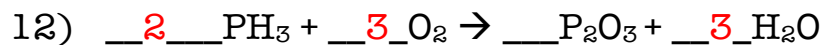
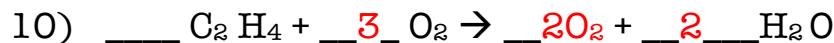
Part B: Balancing Equations: Basic

- 1) 2 H₂ + 1 O₂ → 2 H₂O
- 2) 2 Fe + 3 Cl₂ → 2 FeCl₃
- 3) 3 H₂ + 1 N₂ → 2 NH₃
- 4) 1 S₈ + 8 O₂ → 8 SO₂
- 5) 1 P₄ + 5 O₂ → 2 P₂O₅
- 6) 2 Al + 3 Br₂ → 2 AlBr₃
- 7) 4 Sb + 3 O₂ → 2 Sb₂O₃
- 8) 4 As + 3 O₂ → 2 As₂O₃
- 9) 1 N₂ + 3 H₂ → 2 NH₃
- 10) 1 N₂ + 1 O₂ → 2 NO
- 11) 2 Ca + 1 O₂ → 2 CaO
- 12) 2 Na + 1 Cl₂ → 2 NaCl
- 13) 4 Al + 3 O₂ → 2 Al₂O₃
- 14) 1 N₂ + 3 Cl₂ → 2 NCl₃
- 15) 1 C + 2 Cl₂ → 1 CCl₄
- 16) 1 P₄ + 6 Cl₂ → 4 PCl₃

Part C: Balancing Equations: Moderate



Hydrogen and Oxygen Separated



Part D: Balancing Equations: Hard

- 1) $\underline{3}$ Fe + $\underline{4}$ H₂O → $\underline{\quad}$ Fe₃O₄ + $\underline{4}$ H₂
- 2) $\underline{2}$ RbNO₃ + $\underline{\quad}$ BeF₂ → $\underline{\quad}$ Be(NO₃)₂ + $\underline{2}$ RbF
- 3) $\underline{2}$ AlBr₃ + $\underline{3}$ K₂SO₄ → $\underline{6}$ KBr + $\underline{\quad}$ Al₂(SO₄)₃
- 4) $\underline{\quad}$ Na₂SO₄ + $\underline{\quad}$ CaCl₂ → $\underline{\quad}$ CaSO₄ + $\underline{2}$ NaCl
- 5) $\underline{2}$ C₂H₆ + $\underline{7}$ O₂ → $\underline{4}$ CO₂ + $\underline{6}$ H₂O
- 6) $\underline{\quad}$ Ba₃N₂ + $\underline{6}$ H₂O → $\underline{3}$ Ba(OH)₂ + $\underline{2}$ NH₃
- 7) $\underline{3}$ CaCl₂ + $\underline{2}$ Na₃PO₄ → $\underline{\quad}$ Ca₃(PO₄)₂ + $\underline{6}$ NaCl
- 8) $\underline{\quad}$ Mg(OH)₂ + $\underline{2}$ HCl → $\underline{\quad}$ MgCl₂ + $\underline{2}$ H₂O
- 9) $\underline{2}$ H₂SO₄ + $\underline{\quad}$ Pb(OH)₄ → $\underline{\quad}$ Pb(SO₄)₂ + $\underline{4}$ H₂O
- 10) $\underline{\quad}$ Ca₃(PO₄)₂ + $\underline{2}$ H₂SO₄ → $\underline{2}$ CaSO₄ + $\underline{\quad}$ Ca(H₂PO₄)₂

Part E: Another Balancing Equations Sheet!

1. $\underline{\quad}$ AlBr₃ + $\underline{3}$ K → $\underline{3}$ KBr + $\underline{\quad}$ Al
2. $\underline{\quad}$ P₄ + $\underline{6}$ Br₂ → $\underline{4}$ PBr₃
3. $\underline{2}$ LiCl + $\underline{\quad}$ Br₂ → $\underline{2}$ LiBr + $\underline{\quad}$ Cl₂
4. $\underline{\quad}$ PbBr₂ + $\underline{2}$ HCl → $\underline{2}$ HBr + $\underline{\quad}$ PbCl₂
5. $\underline{2}$ Na₃P + $\underline{3}$ CaF₂ → $\underline{6}$ NaF + $\underline{\quad}$ Ca₃P₂
6. $\underline{2}$ Mn + $\underline{6}$ HI → $\underline{3}$ H₂ + $\underline{2}$ MnI₃
7. $\underline{\quad}$ Li₃PO₄ + $\underline{3}$ NaBr → $\underline{\quad}$ Na₃PO₄ + $\underline{3}$ LiBr
8. $\underline{\quad}$ CaF₂ + $\underline{\quad}$ Li₂SO₄ → $\underline{\quad}$ CaSO₄ + $\underline{2}$ LiF

9. $\underline{2}$ CoBr₃ + $\underline{3}$ CaSO₄ → $\underline{3}$ CaBr₂ + $\underline{\quad}$ Co₂(SO₄)₃
10. $\underline{2}$ HBr + $\underline{\quad}$ Mg(OH)₂ → $\underline{\quad}$ MgBr₂ + $\underline{2}$ H₂O
11. $\underline{2}$ LiNO₃ + $\underline{\quad}$ CaBr₂ → $\underline{\quad}$ Ca(NO₃)₂ + $\underline{2}$ LiBr
12. $\underline{\quad}$ Si(OH)₄ + $\underline{4}$ NaBr → $\underline{\quad}$ SiBr₄ + $\underline{4}$ NaOH
13. $\underline{2}$ NaCN + $\underline{\quad}$ CuCO₃ → $\underline{\quad}$ Na₂CO₃ + $\underline{\quad}$ Cu(CN)₂

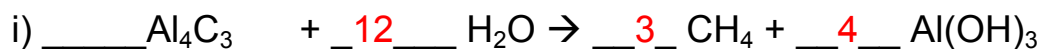
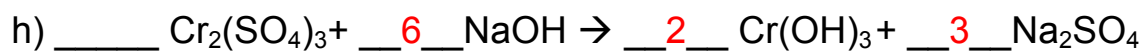
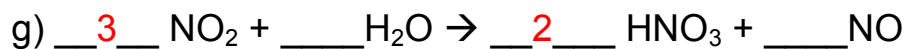
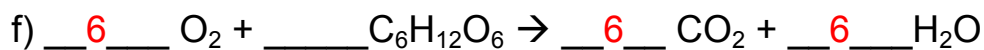
Part F: Here's a few more!

1. $\underline{\quad}$ Mg + $\underline{2}$ HCl → $\underline{\quad}$ MgCl₂ + $\underline{\quad}$ H₂
2. $\underline{3}$ Ca + $\underline{\quad}$ N₂ → $\underline{\quad}$ Ca₃N₂

3. $\text{NH}_4\text{NO}_3 \rightarrow \text{N}_2\text{O} + 2 \text{H}_2\text{O}$
4. $2 \text{BiCl}_3 + 3 \text{H}_2\text{S} \rightarrow \text{Bi}_2\text{S}_3 + 6 \text{HCl}$
5. $2 \text{C}_4\text{H}_{10} + 13 \text{O}_2 \rightarrow 8 \text{CO}_2 + 10 \text{H}_2\text{O}$
6. $6 \text{O}_2 + \text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 6 \text{CO}_2 + 6 \text{H}_2\text{O}$
7. $3 \text{NO}_2 + \text{H}_2\text{O} \rightarrow 2 \text{HNO}_3 + \text{NO}$
8. $\text{Cr}_2(\text{SO}_4)_3 + 6 \text{NaOH} \rightarrow 2 \text{Cr}(\text{OH})_3 + 3 \text{Na}_2\text{SO}_4$
9. $\text{Al}_4\text{C}_3 + 12 \text{H}_2\text{O} \rightarrow 3 \text{CH}_4 + 4 \text{Al}(\text{OH})_3$
10. $4 \text{KNO}_3 \rightarrow 4 \text{KNO}_2 + 2 \text{O}_2$
11. $2 \text{Pb}(\text{NO}_3)_2 \rightarrow 2 \text{PbO} + 4 \text{NO}_2 + \text{O}_2$
12. $\text{P}_4 + 6 \text{I}_2 \rightarrow 4 \text{PI}_3$
13. $3 \text{MgO} + 2 \text{H}_3\text{PO}_4 \rightarrow \text{Mg}_3(\text{PO}_4)_2 + 3 \text{H}_2\text{O}$
14. $\text{Br}_2 + 2 \text{KI} \rightarrow \text{I}_2 + 2 \text{KBr}$
15. $\text{Ca}(\text{OH})_2 + 2 \text{HNO}_3 \rightarrow \text{Ca}(\text{NO}_3)_2 + 2 \text{H}_2\text{O}$
16. $\text{Bi}_2\text{O}_3 + 3 \text{H}_2 \rightarrow 2 \text{Bi} + 3 \text{H}_2\text{O}$
17. $3 \text{Fe} + 2 \text{O}_2 \rightarrow \text{Fe}_3\text{O}_4$
18. $2 \text{CaO} + 5 \text{C} \rightarrow 2 \text{CaC}_2 + \text{CO}_2$

WORKSHEET F

- a) $\text{Mg} + 2 \text{HCl} \rightarrow \text{MgCl}_2 + \text{H}_2$
- b) $3 \text{Ca} + \text{N}_2 \rightarrow \text{Ca}_3\text{N}_2$
- c) $\text{NH}_4\text{NO}_3 \rightarrow \text{N}_2\text{O} + 2 \text{H}_2\text{O}$
- d) $2 \text{BiCl}_3 + 3 \text{H}_2\text{S} \rightarrow \text{Bi}_2\text{S}_3 + 6 \text{HCl}$
- e) $2 \text{C}_4\text{H}_{10} + 13 \text{O}_2 \rightarrow 8 \text{CO}_2 + 10 \text{H}_2\text{O}$



SOME MORE WORKSHEET:

