

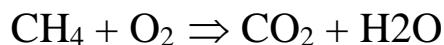
BALANCING CHEMICAL EQUATIONS

Steps of Balancing a chemical equation:

1. Identify the elements in the equation.
2. The number of each element must be the same on both side of the equation to be considered balanced.
3. Start with an element found in one compound on each side of the equation.
Change the coefficients so that the number of atoms of the element is the same on each side of the equation.
4. Once you have balanced one element, do the same thing with another element, until you have the same amount of each element on both sides of the equation.

Let's walk through step by step with an example!

Ex) Balance the following chemical equation.



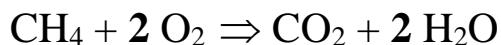
Step1: Identify the elements in the equation:

C, H, O

Step2: Identify the number of atoms of each type of atom must be the same on each side of the equation.

<u>left side</u>	<u>right side</u>
C: 1	C: 1
O: 1	O: 3
H: 4	H: 2

Step3: The number of oxygen and hydrogen atoms isn't the same on both sides of the equation, therefore we will be changing coefficients to make it the same.

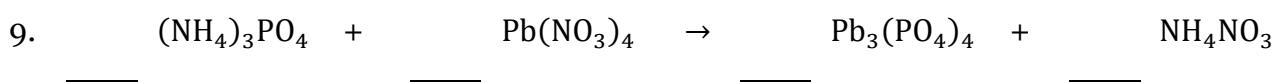
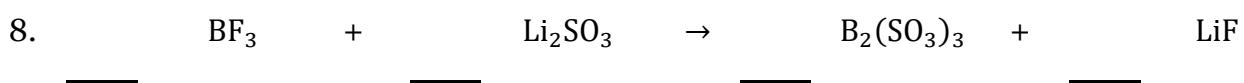
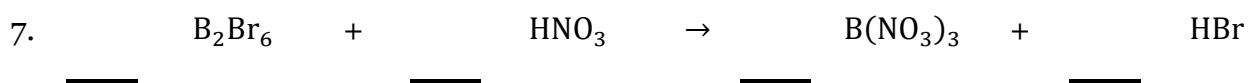
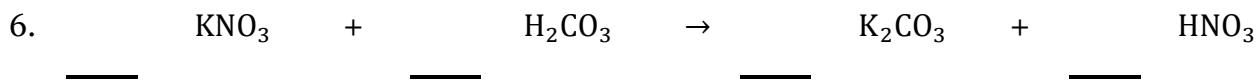
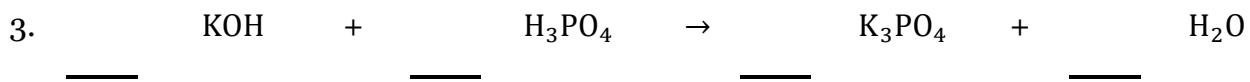
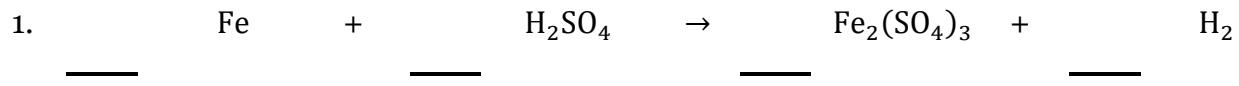


<u>left side</u>	<u>right side</u>
C: 1	C: 1
O: 4	O: 4
H: 4	H: 4

Equation: Balanced!

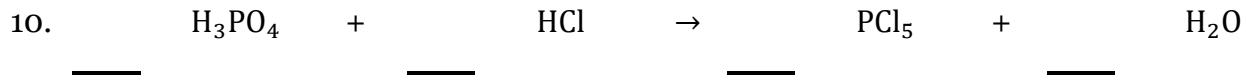
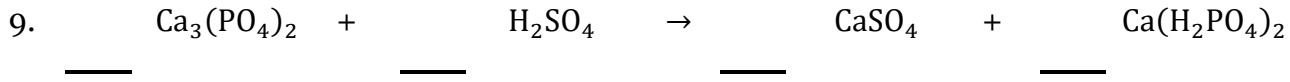
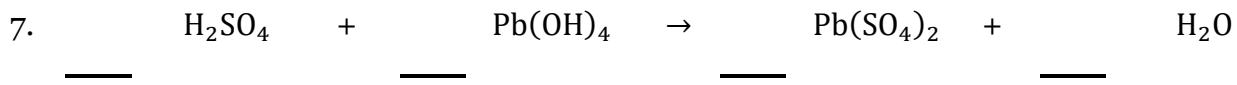
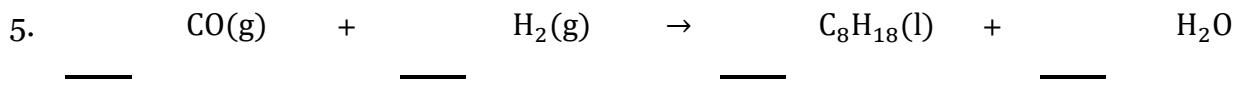
Worksheet #1

Balance the following chemical equations.



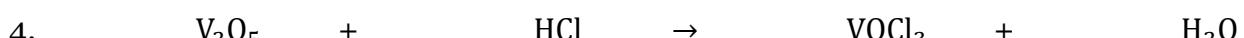
Worksheet #2

Balance the following chemical equations.



Worksheet#3

Balance the following chemical equations.



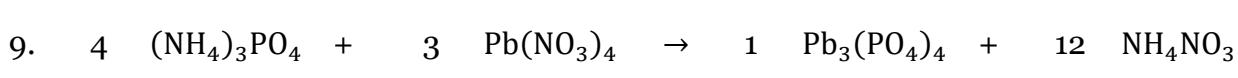
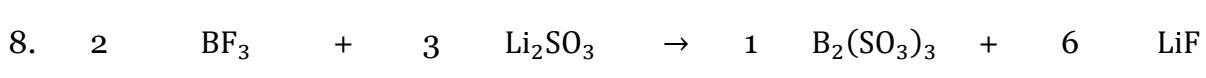
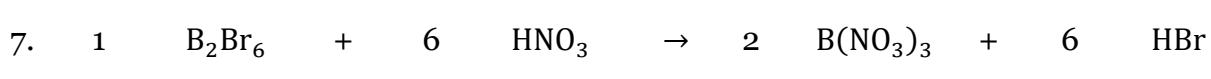
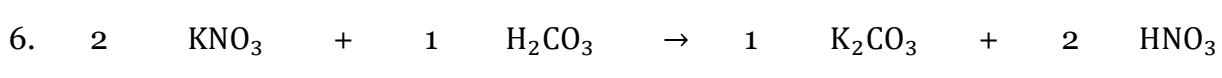
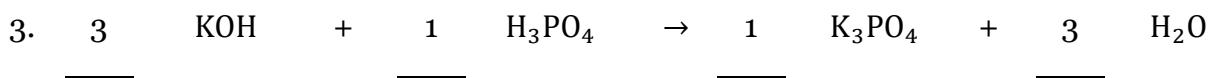
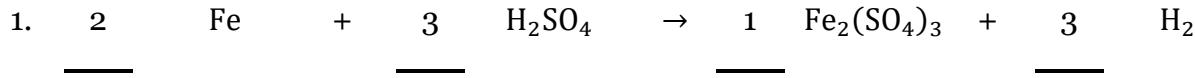
Worksheet#4

Balance the following chemical equations.

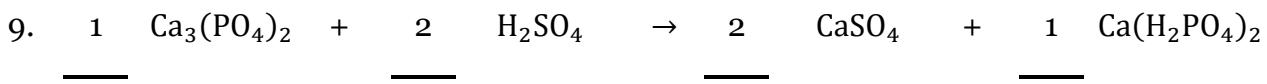
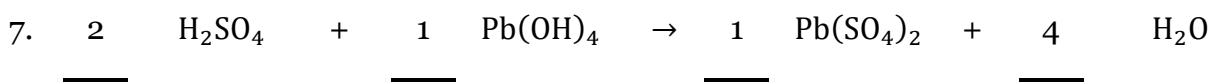
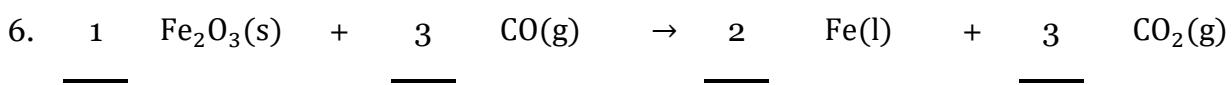
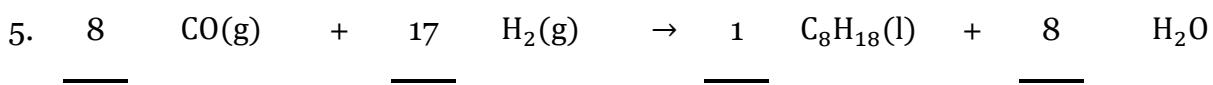
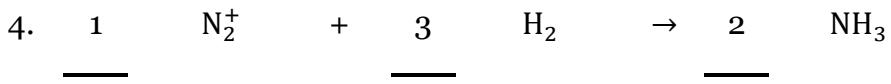
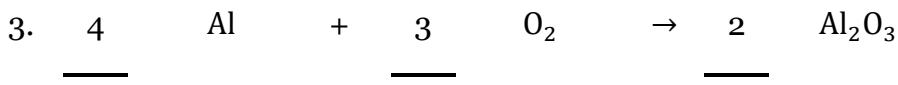
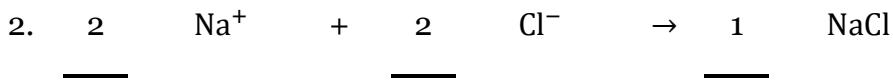
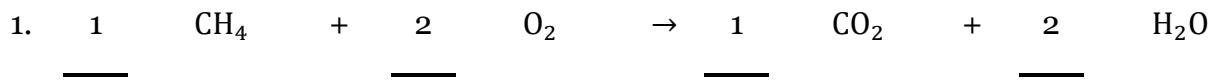
1. $\underline{\hspace{1cm}}$ AgI + $\underline{\hspace{1cm}}$ Na₂S \rightarrow $\underline{\hspace{1cm}}$ Ag₂S + $\underline{\hspace{1cm}}$ NaI
2. $\underline{\hspace{1cm}}$ Na₃PO₄ + $\underline{\hspace{1cm}}$ HCl \rightarrow $\underline{\hspace{1cm}}$ NaCl + $\underline{\hspace{1cm}}$ H₃PO₄
3. $\underline{\hspace{1cm}}$ Ba₃N₂ + $\underline{\hspace{1cm}}$ H₂O \rightarrow $\underline{\hspace{1cm}}$ Ba(OH)₂ + $\underline{\hspace{1cm}}$ NH₃
4. $\underline{\hspace{1cm}}$ TiCl₄ + $\underline{\hspace{1cm}}$ H₂O \rightarrow $\underline{\hspace{1cm}}$ TiO₂ + $\underline{\hspace{1cm}}$ HCl
5. $\underline{\hspace{1cm}}$ CaCl₂ + $\underline{\hspace{1cm}}$ Na₃PO₄ \rightarrow $\underline{\hspace{1cm}}$ Ca₃(PO₄)₂ + $\underline{\hspace{1cm}}$ NaCl
6. $\underline{\hspace{1cm}}$ NaBr + $\underline{\hspace{1cm}}$ Cl₂ \rightarrow $\underline{\hspace{1cm}}$ NaCl + $\underline{\hspace{1cm}}$ Br₂
7. $\underline{\hspace{1cm}}$ Mg(OH)₂ + $\underline{\hspace{1cm}}$ HCl \rightarrow $\underline{\hspace{1cm}}$ MgCl₂ + $\underline{\hspace{1cm}}$ H₂O
8. $\underline{\hspace{1cm}}$ FeS + $\underline{\hspace{1cm}}$ O₂ \rightarrow $\underline{\hspace{1cm}}$ Fe₂O₃ + $\underline{\hspace{1cm}}$ SO₂
9. $\underline{\hspace{1cm}}$ PCl₅ + $\underline{\hspace{1cm}}$ H₂O \rightarrow $\underline{\hspace{1cm}}$ H₃PO₄ + $\underline{\hspace{1cm}}$ HCl
10. $\underline{\hspace{1cm}}$ C₂H₆O + $\underline{\hspace{1cm}}$ O₂ \rightarrow $\underline{\hspace{1cm}}$ CO₂ + $\underline{\hspace{1cm}}$ H₂O

Answer Key

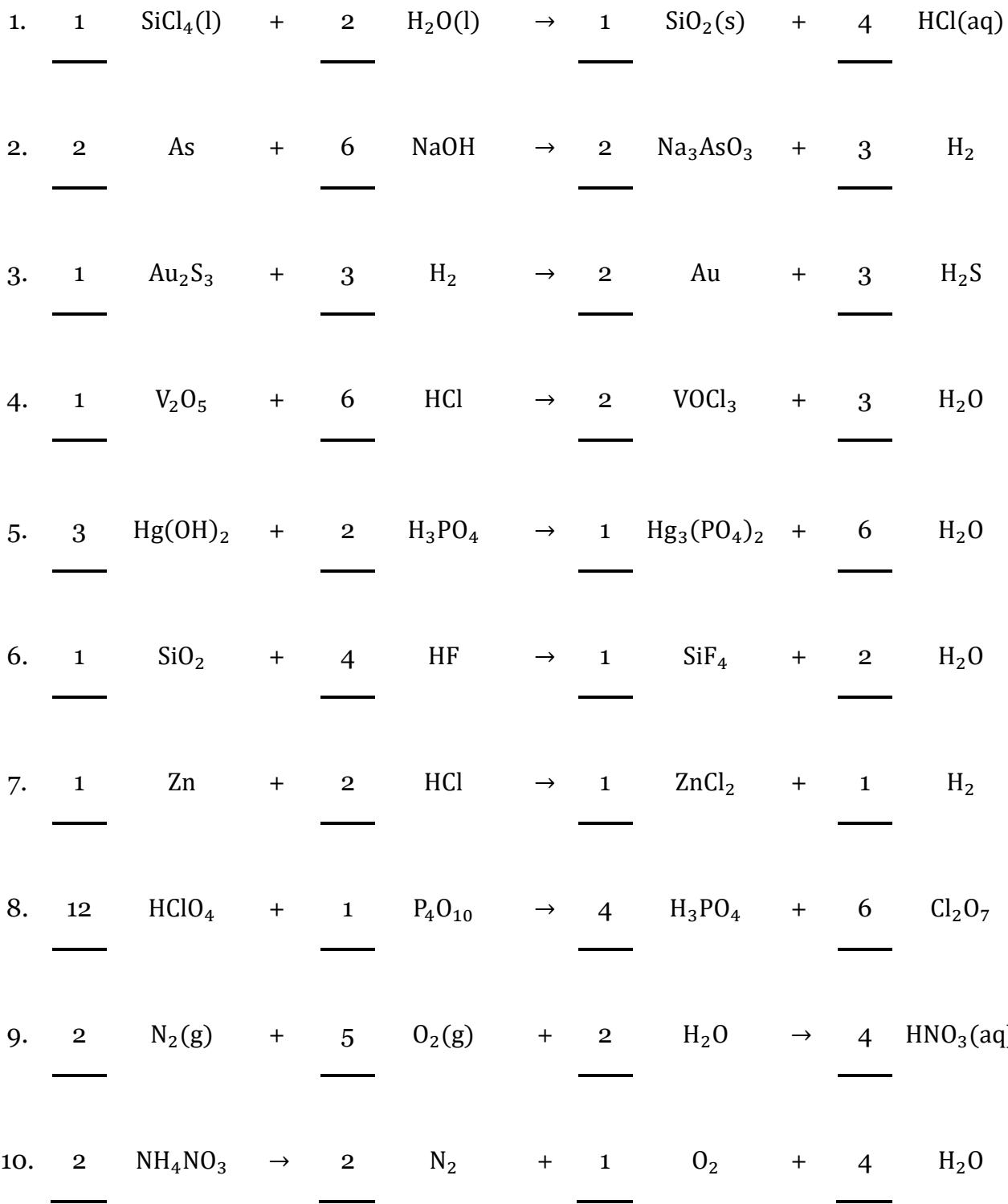
Worksheet#1



Answer Key
Worksheet#2



Answer Key
Worksheet#3



Answer Key
Worksheet#4

