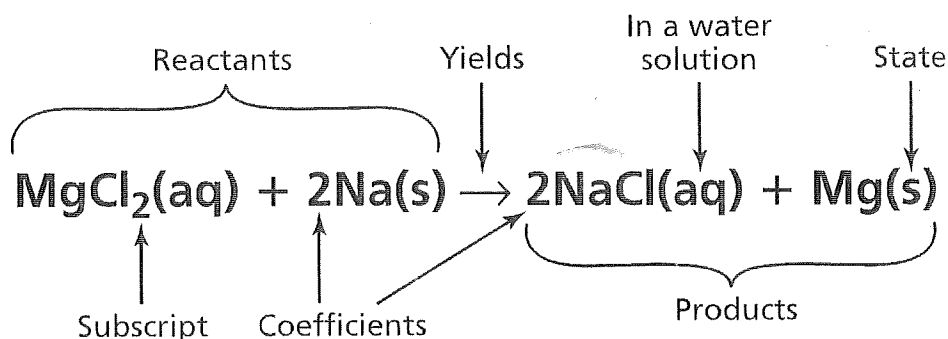


# Parts of a Balanced Chemical Equation

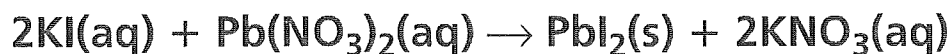
Use with Chapter 9,  
Section 9.1

## Steps for Balancing Equations

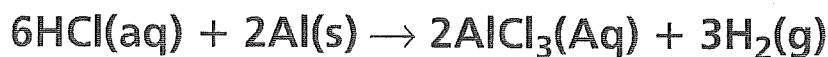
1. Write the skeleton equation for the reaction.
2. Count the atoms of each element in the reactants.
3. Count the atoms of each element in the products.
4. Change the coefficients to make the number of atoms of each element equal on each side of the equation.
5. Write the coefficients in the lowest possible ratio.
6. Check your work.



Equation 1:



Equation 2:



**TEACHING TRANSPARENCY WORKSHEET**

# Parts of a Balanced Chemical Equation

Use with Chapter 9,  
Section 9.1

Examine the parts of the chemical equation at the top of the transparency. Use this information to answer the following questions about Equation 1 and Equation 2.

1. Write Equation 1 as a sentence.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Write Equation 2 as a sentence.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. What substances are reactants in

a. Equation 1? \_\_\_\_\_

b. Equation 2? \_\_\_\_\_

4. What substances are products in

a. Equation 1? \_\_\_\_\_

b. Equation 2? \_\_\_\_\_

5. List the coefficients used in

a. Equation 1. \_\_\_\_\_

b. Equation 2. \_\_\_\_\_

6. What substances are in aqueous solution in

a. Equation 1? \_\_\_\_\_

b. Equation 2? \_\_\_\_\_

7. What substance shown is a gas?

\_\_\_\_\_

8. What is the state of  $PbI_2$  in Equation 1? \_\_\_\_\_

9. What state is not represented in either equation? \_\_\_\_\_

10. What do the subscripts tell you in the formulas for

a.  $AlCl_3$ ? \_\_\_\_\_

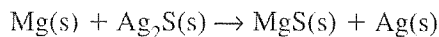
b.  $KNO_3$ ? \_\_\_\_\_

c.  $Pb(NO_3)_2$ ? \_\_\_\_\_

# Balancing Chemical Equations

Use with Chapter 9,  
Section 9.1

1. Examine the following equation.



- a. How many atoms of magnesium are on each side of the equation?

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- b. Which element does not have the same number of atoms on both sides of the equation?

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- c. Write the balanced equation for this reaction. \_\_\_\_\_

2. Follow the steps for balancing a chemical equation and write a response for each step for the reaction in which iron metal (Fe) burns in oxygen ( $\text{O}_2$ ) to form iron(III) oxide ( $\text{Fe}_2\text{O}_3$ ).

Step 1: \_\_\_\_\_

Step 2: \_\_\_\_\_

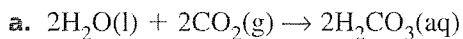
Step 3: \_\_\_\_\_

Step 4: \_\_\_\_\_

Step 5: \_\_\_\_\_

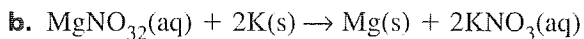
Step 6: \_\_\_\_\_

3. For each of the following, use at least one of the rules for balancing equations to explain why the equation is not properly balanced. Then write a correctly balanced equation for each reaction.



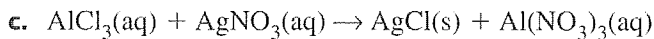
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## Balancing Equations Practice Worksheet

*Balance the following equations:*

