

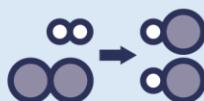


Writing Chemical Equations

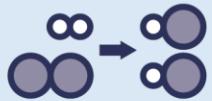
1. Complete the following table:

Chemical name	Chemical Formula
Hydrochloric Acid	
Nitric Acid	
	H ₂ SO ₄
	H ₂
Calcium chloride	CaCl ₂
Sodium Hydroxide	NaOH
	NaCl
Copper carbonate	CuCO ₃
Copper sulfate	CuSO ₄
	CuO
Potassium carbonate	K ₂ CO ₃
Potassium nitrate	KNO ₃

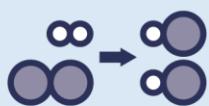
2. Complete the general equations to show the products formed in each of the reactions with acids:
 - a. Metal + acid →
 - b. Metal oxide + acid →
 - c. Metal hydroxide + acid →
 - d. Metal carbonate + acid →
3. Use the general equations from question 2 to predict the products of these reactions and complete the word equations:
 - a. Calcium + hydrochloric acid →
 - b. Hydrochloric acid + sodium hydroxide →
 - c. Sulfuric acid + copper carbonate →



- d. Hydrochloric acid + copper oxide →
- e. Nitric acid + potassium carbonate →
4. Use the table in Q1 to help you write **balanced** symbol equations for each of the reactions in Q3.
- a.
- b.
- c.
- d.
- e.
5. Use Q3/Q4 to help you answer these questions.
- a. Which reactions would cause a positive result for the squeaky pop test?
- b. Which reactions would cause a positive result for the limewater test?



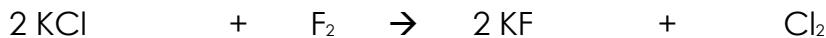
6. Alkali metals react with oxygen to form metal oxides. Write a word equation and a **balanced** symbol equation to show the reaction of lithium, sodium and potassium with oxygen.
7. Alkali metals react with water to form metal hydroxides and hydrogen gas. Write a word equation and a **balanced** symbol equation to show the reaction of lithium, sodium and potassium with water.



**Stretch:**

8. A more reactive halogen can displace a less reactive halogen from an aqueous solution of its salts.

e.g. Potassium chloride + fluorine \rightarrow Potassium fluoride + chlorine



A displacement reaction occurs in this case because fluorine is more reactive than chlorine, so fluorine displaces the chlorine from the salt.

Determine if a reaction would occur in each case. If a reaction would occur write a word and balanced symbol equation for each one:

a. Potassium iodide + chlorine

b. Sodium chloride + bromine

c. Lithium iodide + fluorine

d. Sodium bromide + chlorine

