Naming Compounds

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Naming simple compounds

To name simple compounds of metals and nonmetals:

1. Write down the name of the metal.

2. Write down the name of the nonmetal, changing the ending of the word to “-ide”.

What is the name of the compound made when the following elements combine?

- magnesium and oxygen — **magnesium oxide**
- sodium and chlorine — **sodium chloride**
- oxygen and iron — **iron oxide**

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Naming simple compounds

What is the name of each compound formed by these metal and nonmetal elements?

element 1	element 2	compound
iron (Fe)	sulfur (S)	iron sulfide (FeS)
magnesium (Mg)	nitrogen (N)	magnesium nitride (Mg_3N_2)
sodium (Na)	chlorine (Cl)	sodium chloride (NaCl)
tin (Sn)	oxygen (O)	tin oxide (SnO)
aluminum (Al)	bromine (Br)	aluminum bromide ($AlBr_3$)
nickel (Ni)	iodine (I)	nickel iodide (NiI_2)
zinc (Zn)	sulfur (S)	zinc sulfide (ZnS)
lithium (Li)	nitrogen (N)	lithium nitride (Li_3N)

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Naming compounds containing oxygen

Many compounds contain more than two elements.

For compounds containing two elements **plus** oxygen, the ending of the other nonmetal usually changes to "**-ate**".

element 1	element 2	element 3	compound
nickel	sulfur	oxygen	nickel sulfate
magnesium	nitrogen	oxygen	magnesium nitrate
sodium	nitrogen	oxygen	sodium nitrate
copper	sulfur	oxygen	copper sulfate
aluminum	bromine	oxygen	aluminum bromate

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Which product?

What is the name of the compound produced?

1. sodium + nitrogen + oxygen → ?
2. aluminum + bromine → ?
3. lithium + nitrogen → ?
4. aluminum + bromine + oxygen → ?

aluminum bromate

?

C solve

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Writing a word equation

A word equation can be used to describe any chemical reaction.

The steps for writing a word equation are:

1. On the left-hand side, put the name(s) of the **reactant(s)**. If there are two or more reactants, link them with a **+** sign.

2. In the middle, draw an **arrow**: ➔

3. On the right-hand side, put the name(s) of the **product(s)**. If there are two or more products, link them with a **+** sign.

reactant 1 + reactant 2 ➔ product 1 + product 2

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Completing word equations

Fill in the gaps in these word equations

1. sodium + chlorine → ?
2. hydrogen + ? → water
3. ? + oxygen → magnesium oxide
4. ? + ? → iron sulfide
5. lead + bromine → ?

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