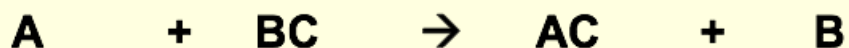


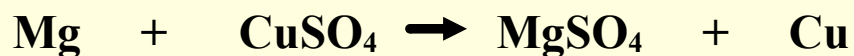
Single Replacement Reactions

Single Replacement Reactions

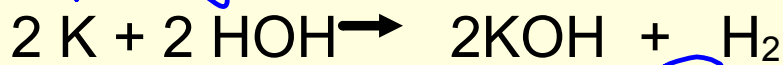
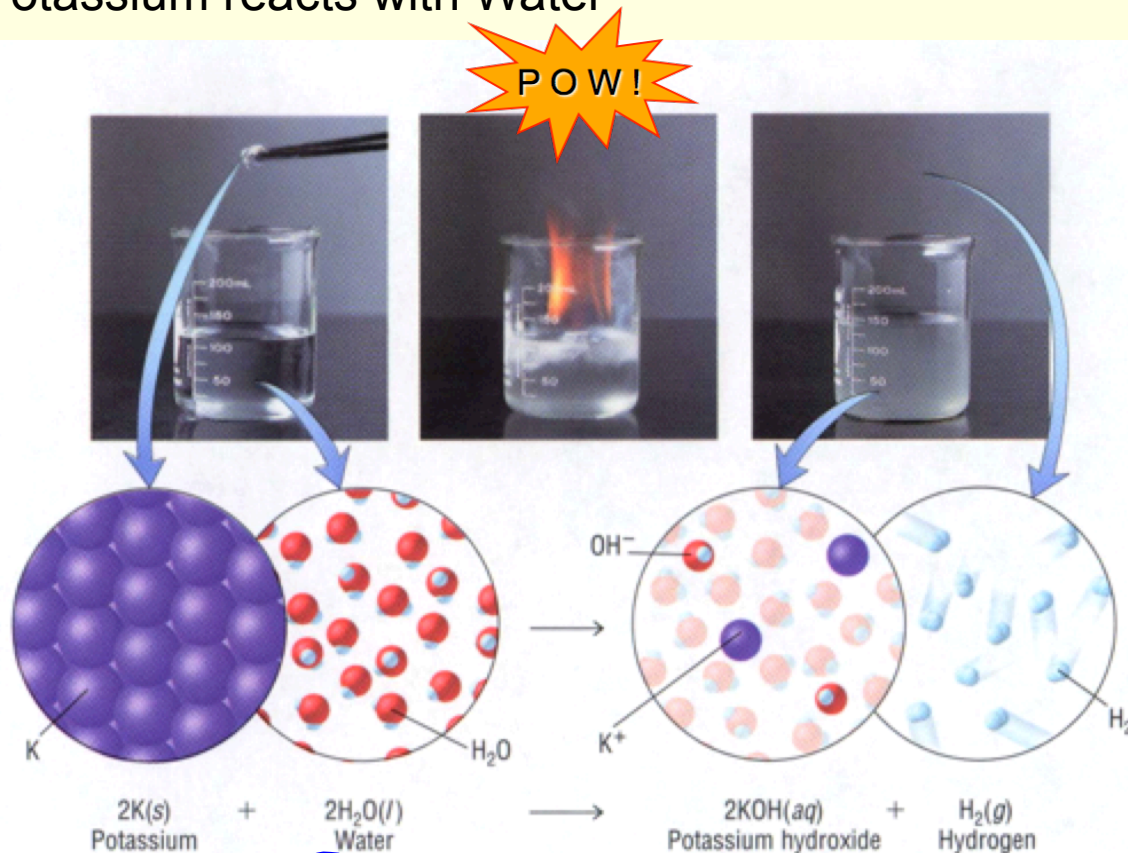
General form:



One gets
Kicked out



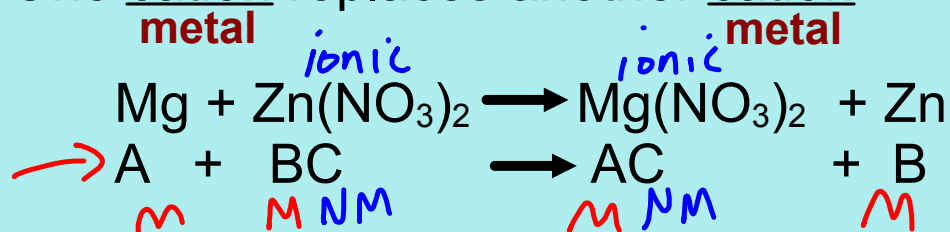
Potassium reacts with Water



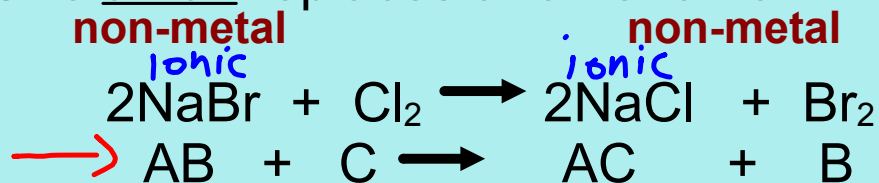
M *H⁺ OH⁻*

Single Replacement Reactions

One cation replaces another cation.



One anion replaces another anion.



Activity Series



Cations
Element Reactivity

Li
Rb
K
Ba
Ca
Na
Mg
Al
Mn
Zn
Cr
Fe
Ni
Sn
Pb
H₂
Cu
Hg
Ag
Pt
Au

Anions
Halogen Reactivity

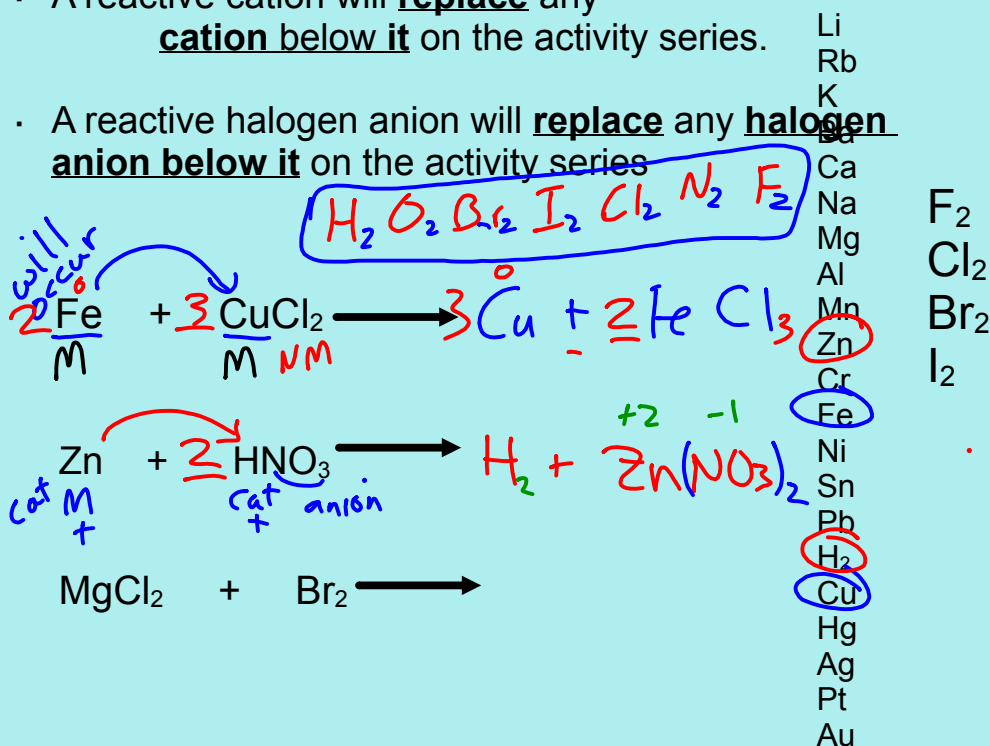
F₂
Cl₂
Br₂
I₂

Most reactive on periodic table:

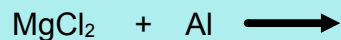
How do you determine if a reaction will occur, or if one element will replace another?

Look at the **activity series**.

- A reactive cation will **replace** any **cation below it** on the activity series.
- A reactive halogen anion will **replace** any **halogen anion below it** on the activity series.



Predict if these reactions will occur:

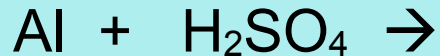
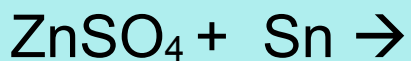


Order of reactants DOES NOT determine how they react.

The question we must ask is:

Can the single element replace its counterpart?

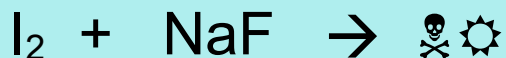
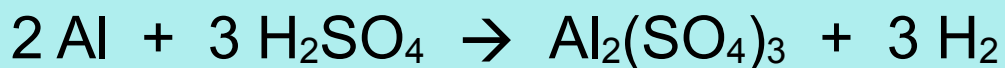
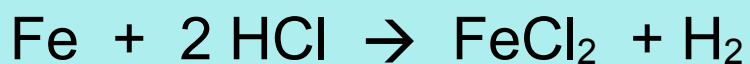
More Practice:



Li
Rb
K
Ba
Ca
Na
Mg
Al
Mn
Zn
Cr
Fe
Ni
Sn
Pb
H₂
Cu
Hg
Ag
Pt
Au

F₂
Cl₂
Br₂
I₂

More Practice:



Li
Rb
K
Ba
Ca
Na
Mg
Al
Mn
Zn
Cr
Fe
Ni
Sn
Pb
H₂
Cu
Hg
Ag
Pt
Au

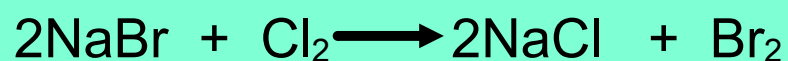
F₂
Cl₂
Br₂
I₂

The equation must contain the correct formulas for reactants and products

Representing Chemical Equations: Formula and Word Equations:

FORMULA EQUATIONS represent the reactant and products of a chemical reaction by their symbols or formulas

example:

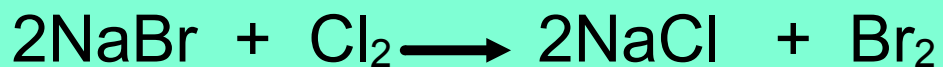
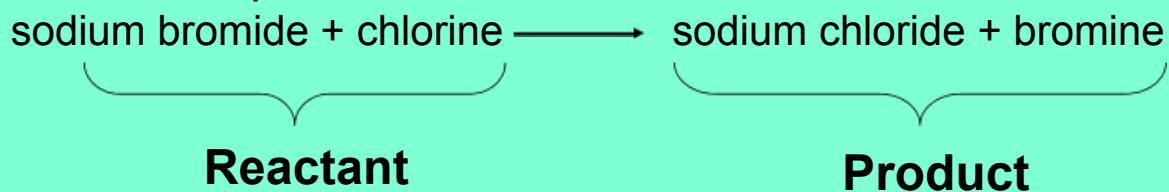


The equation must contain the correct formulas for reactants and products

WORD EQUATIONS represent the reactant and products of a chemical reaction by their names

Write the word equation for the reaction of sodium bromide and chlorine to form sodium chloride and bromine

Example:



Review

Predict the products

(Write balanced formulas).

Write No Reaction if applies.

Balance the equation.



3) Write the symbols for the elements that exist as diatomics in their elemental state.

Review

Predict the products (balanced formulas).

Write No Reaction if applies.

Balance the equation.



7) Write the symbols for the elements that exist as diatomics in their elemental state.
