# Activity: Types of Chemical Rxns

#### STEP 1

Look at the given chemical reactions. Can you find patterns? Sort them according to what you see! *Hint: First determine if the chemicals in each reaction is an element or a compound.* 

Classwork



### STEP 2

Discuss and match the following vocabulary words and definition to your categories.

**Double Replacement** Two compounds switch partners with one another.

**Decomposition** One compound breaks into elements or smaller compounds.

Synthesis Two or more elements or compounds combine to form one product.

Single Replacement Part of an ionic compound is removed and replaced by a new element.



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## **STEP 3 (GROUP)**

Fill in the table below to summarize what you have found..

Type of Chemical Reaction	Pattern	Example

4Fe + 3O <sub>2</sub> → 2Fe <sub>2</sub> O <sub>3</sub>
$N_2 + 3H_2 \rightarrow 2NH_3$
2SO <sub>2</sub> + O <sub>2</sub> → 2SO <sub>3</sub>
$MgO + H_2O \rightarrow Mg(OH)_2$
P2O5 +3H2O → 2H3PO4
$SO_3 + H_2O \rightarrow H_2SO_4$
2FeCl <sub>3</sub> + 3Zn → 2Fe + 3ZnCl <sub>2</sub>
2AI(NO3)3 +3Ca → 3Ca(NO3)2 +2AI
Mg + CuSO₄ → MgSO₄ + Cu
2AI + 6HCI → 2AICI <sub>3</sub> + 3H <sub>2</sub>
$Cl_2 + 2NaBr \rightarrow 2NaCl + Br_2$
$ZnBr_2 + F_2 \rightarrow ZnF_2 + Br_2$
$MgCO_3 \rightarrow MgO + CO_2$
8Li₂S → 16Li + S8
$2H_2O \rightarrow 2H_2 + O_2$
2KClO <sub>3</sub> → 2KCl + 3O <sub>2</sub>
$2Na_2O_2 \rightarrow 2Na_2O + O_2$
(NH4)2CO3 → 2NH3 +H2O +CO2
AgNO3 + NaCl → AgCl + NaNO3
2HNO <sub>3</sub> + Mg(OH) <sub>2</sub> → Mg(NO <sub>3</sub> ) <sub>2</sub> + 2H <sub>2</sub> O
Na <sub>2</sub> CO <sub>3</sub> + CaCl <sub>2</sub> $\rightarrow$ CaCO <sub>3</sub> + 2NaCl
$FeS + 2HCI \rightarrow H_2S + FeCl_2$
HCl + NaOH $\rightarrow$ H <sub>2</sub> O + NaCl
FeBr <sub>3</sub> + K <sub>3</sub> PO <sub>4</sub> → FePO <sub>4</sub> + 3KBr