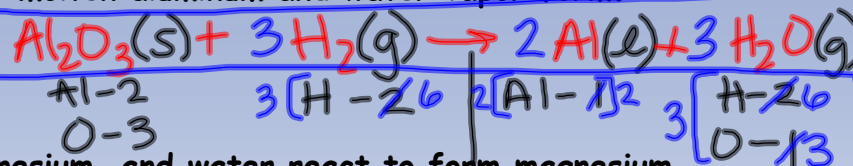
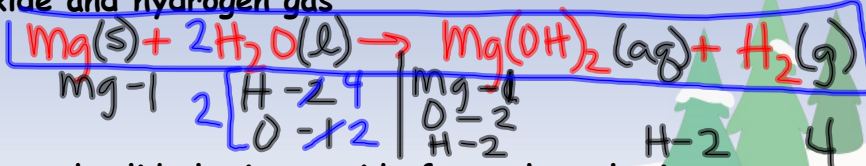


Welcome! Please write the chemical reactions for each of these and we will balance them together!

1. When solid aluminum oxide and hydrogen gas are heated, molten aluminum and water vapor form.



2. Magnesium and water react to form magnesium hydroxide and hydrogen gas



3. Iron and solid aluminum oxide form when aluminum reacts with iron III oxide powder.

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## WWK:

11. precipitate a solid substance produces from a liquid solution

12. combustion- a rapid chemical reactions between a carbon compound and oxygen that produces heat and light

13. neutralization- a reaction between an acid and a base where all the H<sup>+</sup> ions and OH<sup>-</sup> ions become water molecules

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# TOC: 59-60 Types of Reactions

Type of Chemical Reaction	Definition	General Formula	Distinguishing Information	Examples
Synthesis (Combination) Reaction	2 or more reactants combine to produce one product	$A+B=AB$	* look for only one product! * these reactions are exothermic!	$2\text{Na(s)} + \text{Cl}_2\text{(g)} \rightarrow 2\text{NaCl(s)}$ $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
Decomposition Reaction	1 larger reactant breaks down into 2 or more smaller products	$AB = A+B$	look for only one reactant!!	$2\text{NCl}_3 \rightarrow \text{N}_2 + 3\text{Cl}_2$

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Single Replacement Reaction	a single element switches places with another element in a compound	$AB+C=AC+B$	* Metal oxides tend to combine with water to produce metal hydroxides * nonmetal oxides tend to combine with water to form an acid	$2\text{K(s)} + \text{ZnCl}_2\text{(aq)} \rightarrow \text{Zn(s)} + 2\text{KCl(aq)}$
Double Replacement Reaction	2 ions switch places in two compounds	$AB+CD=AD+CB$	* look for the second element in each compound to switch places * precipitation (solid forms) * neutralization (acid+base=salt+water)	$2\text{NaI(aq)} + \text{Pb(NO}_3)_2\text{(aq)} \rightarrow \text{PbI}_2\text{(s)} + 2\text{NaNO}_3\text{(aq)}$
Combustion Reaction	a carbon compound reacts with oxygen gas to produce carbon dioxide and water	$\text{CH} + \text{O}_2 = \text{CO}_2 + \text{H}_2\text{O}$	* it will always follow the same formula pattern with a carbon compound and oxygen gas. * look for carbon dioxide and water!	$2\text{C}_2\text{H}_6 + 7\text{O}_2 \rightarrow 4\text{CO}_2 + 6\text{H}_2\text{O}$

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