

Synthesis and Decomposition Reactions

1. For each of the following word equations, write a balanced chemical equation.

a) magnesium + oxygen gas \longrightarrow magnesium oxide



b) hydrogen gas + oxygen gas \longrightarrow water



c) potassium + chlorine gas \longrightarrow potassium chloride

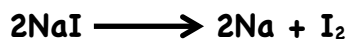


d) iron + oxygen gas \longrightarrow iron (III) oxide

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e) sodium iodide \longrightarrow sodium + iodine



f) zinc carbonate \longrightarrow zinc oxide + carbon dioxide (zinc forms a Zn^{2+} ion)



g) iron (II) sulfide \longrightarrow iron + sulfur

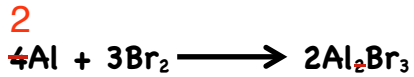


2. For these questions, the product is not given to you. Complete the word equation by naming the product, and then write a balanced chemical equation.

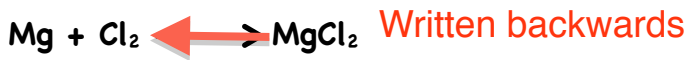
a) sodium + oxygen gas \longrightarrow sodium oxide



b) aluminum + bromine gas \longrightarrow aluminum bromide



c) magnesium chloride \longrightarrow magnesium + chlorine



d) water \longrightarrow hydrogen + oxygen

