

Types of Reactions: Identifying and predicting products

For each reaction equation:

1. Balance the equation.
2. Identify the type of reaction (synthesis, decomposition, etc.).

**Reaction Type**

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|---|-----|
| 1. $\text{KClO}_3 \rightarrow \text{KCl} + \text{O}_2$  | 1.  |
| 2. $\text{KBr} + \text{F}_2 \rightarrow \text{KF} + \text{Br}_2$                                  | 2.  |
| 3. $\text{S}_8 + \text{F}_2 \rightarrow \text{SF}_6$  | 3.  |
| 4. $\text{Na}_2\text{SO}_4 + \text{Pb}(\text{NO}_3)_2 \rightarrow \text{NaNO}_3 + \text{PbSO}_4$  | 4.  |
| 5. $\text{C}_3\text{H}_8 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$               | 5.  |
| 6. $\text{Zn} + \text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$                                | 6.  |
| 7. $\text{FeCl}_3 + \text{Na}_2\text{CO}_3 \rightarrow \text{Fe}_2(\text{CO}_3)_3 + \text{NaCl}$  | 7.  |
| 8. $\text{Na} + \text{H}_2\text{O} \rightarrow \text{NaOH} + \text{H}_2$                          | 8.  |
| 9. $\text{C}_2\text{H}_6 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$               | 9.  |
| 10. $\text{HgO} \rightarrow \text{Hg} + \text{O}_2$   | 10. |
| 11. $\text{CaCl}_2 + \text{Na}_3\text{PO}_4 \rightarrow \text{NaCl} + \text{Ca}_3(\text{PO}_4)_2$ | 11. |
| 12. $\text{N}_2\text{O}_5 + \text{H}_2\text{O} \rightarrow \text{HNO}_3$                          | 12. |
| 13. $\text{Mg} + \text{CuCl}_2 \rightarrow \text{MgCl}_2 + \text{Cu}$                             | 13. |