

Five chemical reactions are listed in the table below.

Reaction 1	$\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
Reaction 2	$\text{Ca}(\text{OH})_2 + 2\text{HCl} \rightarrow \text{CaCl}_2 + 2\text{H}_2\text{O}$
Reaction 3	$\text{NH}_3 + \text{HCl} \rightarrow \text{NH}_4\text{Cl}$
Reaction 4	$\text{PbO}_2 \rightarrow \text{Pb} + \text{O}_2$
Reaction 5	$2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$

- Identify **one** chemical reaction from the list that is a synthesis (combination) reaction. Explain why you identified this reaction as synthesis.
- Identify **one** chemical reaction from the list that is a decomposition reaction. Explain why you identified this reaction as decomposition.
- Describe a combustion reaction.
- Write a balanced chemical equation for a combustion reaction using some or all of the substances from the table below.

C_3H_8	CO_2
O_2	H_2
C	H_2O