

## Classifying Chemical Reactions Foldable

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## Classifying Chemical Reactions

or why Selena Gomez is no longer with Justin Bieber

### Synthesis Reaction

Selena and Justin originally met because they were in the same industry. His manager called her manager and set up a meeting. Before you know it they could not stop hanging out with each other!



### Synthesis in Chemistry

A synthesis reaction or direct combination reaction is a type of chemical reaction in which two or more simple substances combine to form a more complex product.

Basic Form:



Examples:



### Decomposition Reaction

According to the rumor mill, Justin had several girlfriends with other people. Although no one knows for sure, Selena and Justin decide to break up.



### Decomposition in Chemistry

A decomposition reaction is a type of chemical reaction in which one reactant yields two or more products.

Basic Form:



Examples:



### Single Displacement Reaction

Selena decides to let go of Justin. She meets Hunter Hayes, and they become an "item".



### Single Displacement in Chemistry

A single displacement reaction is a reaction in which one element is substituted for another element in a compound.

Basic Form:



Examples:



### Double Displacement Reaction

The rumor does not end there. Some sources believe that Taylor Swift was involved in the Selena-Justin breakup creating a couples swap.



### Double Displacement in Chemistry

A double displacement reaction is a type of reaction where two reactants exchange ions to form two new compounds.

Basic Form:



Examples:



One more

before you go



### Combustion

A combustion reaction is a reaction that occurs when a substance reacts with oxygen, releasing energy in the form of heat and light.

Basic Form:

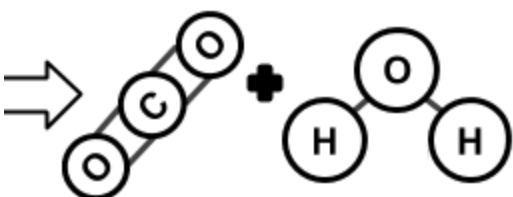


Examples:



# Chemical Reactions

Products



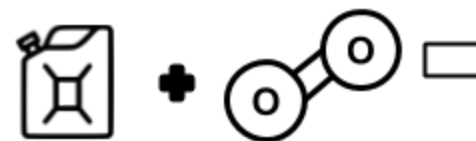
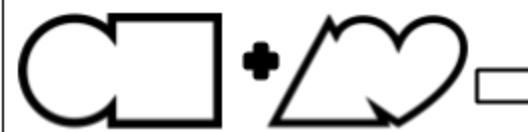
## Directions:

1. Study the images to determine the labels for each type of chemical reaction.
2. Complete the inside of the foldable with the definition and two balanced examples for each type of chemical reaction we studied.
3. In order to create the foldable, fold this paper along its portrait edges to the center of the page (align with the inside).
4. Once all the writing and folding is done, color the images.
5. Finally cut the paper along the dotted lines.

Name; \_\_\_\_\_

# Classifying

Reactants



<b>Definition</b>	<b>Balanced examples</b>

Definition	Balanced examples
<p>_____ or more simple _____ combine to form a more _____ product</p>	$\text{--- P}_4 + \text{--- O}_2 \longrightarrow \text{--- P}_2\text{O}_3$ <p>-----</p> $\text{--- K} + \text{--- Cl}_2 \longrightarrow \text{--- KCl}$
<p>_____ reactant _____ apart yielding _____ or more _____.</p>	$\text{--- H}_2\text{CO}_3 \longrightarrow \text{--- H}_2\text{O} +$ $\text{--- CO}_2$ <p>-----</p> $\text{--- H}_2\text{O} \longrightarrow \text{--- H}_2 + \text{--- O}_2$
<p>one element is _____ for another element in a _____.</p>	$\text{--- NaF} + \text{--- Br}_2 \longrightarrow$ $\text{--- NaBr} + \text{--- F}_2$ <p>-----</p> $\text{--- GaF}_3 + \text{--- Cs} \longrightarrow$ $\text{--- CsF} + \text{--- Ga}$
<p>two _____ exchange ions to form _____ new _____.</p>	$\text{--- Pb(OH)}_2 + \text{--- HCl} \longrightarrow$ $\text{--- H}_2\text{O} + \text{--- PbCl}_2$ <p>-----</p> $\text{--- BaS} + \text{--- PtF}_2 \longrightarrow$ $\text{--- BaF}_2 + \text{--- PtS}$
<p>a substance reacts with _____, releasing _____ in the form of _____ and light.</p>	$\text{--- CH}_4 + \text{--- O}_2 \longrightarrow$ $\text{--- CO}_2 + \text{--- H}_2\text{O}$ <p>-----</p> $\text{--- C}_4\text{H}_{10} + \text{--- O}_2 \longrightarrow$ $\text{--- CO}_2 + \text{--- H}_2\text{O}$

Definition	Balanced examples
<p>Two or more simple substances combine to form a more complex product</p>	$\underline{1} \text{ P}_4 + \underline{3} \text{ O}_2 \longrightarrow \underline{2} \text{ P}_2\text{O}_3$ <p>-----</p> $\underline{2} \text{ K} + \underline{1} \text{ Cl}_2 \longrightarrow \underline{2} \text{ KCl}$
<p>One reactant breaks apart yielding two or more products.</p>	$\underline{1} \text{ H}_2\text{CO}_3 \longrightarrow \underline{1} \text{ H}_2\text{O} + \underline{1} \text{ CO}_2$ <p>-----</p> $\underline{2} \text{ H}_2\text{O} \longrightarrow \underline{2} \text{ H}_2 + \underline{1} \text{ O}_2$
<p>one element is replaced for another element in a compound.</p>	$\underline{2} \text{ NaF} + \underline{1} \text{ Br}_2 \longrightarrow \underline{2} \text{ NaBr} + \underline{1} \text{ F}_2$ <p>-----</p> $\underline{\hspace{1cm}} \text{ GaF}_3 + \underline{\hspace{1cm}} \text{ Cs} \longrightarrow \underline{\hspace{1cm}} \text{ CsF} + \underline{\hspace{1cm}} \text{ Ga}$
<p>two compounds exchange ions to form two new compounds.</p>	$\underline{1} \text{ Pb(OH)}_2 + \underline{2} \text{ HCl} \longrightarrow \underline{2} \text{ H}_2\text{O} + \underline{1} \text{ PbCl}_2$ <p>-----</p> $\underline{1} \text{ BaS} + \underline{1} \text{ PtF}_2 \longrightarrow \underline{1} \text{ BaF}_2 + \underline{1} \text{ PtS}$
<p>a substance reacts with oxygen, releasing energy in the form of heat and light.</p>	$\underline{1} \text{ CH}_4 + \underline{2} \text{ O}_2 \longrightarrow \underline{1} \text{ CO}_2 + \underline{2} \text{ H}_2\text{O}$ <p>-----</p> $\underline{2} \text{ C}_4\text{H}_{10} + \underline{13} \text{ O}_2 \longrightarrow \underline{8} \text{ CO}_2 + \underline{10} \text{ H}_2\text{O}$