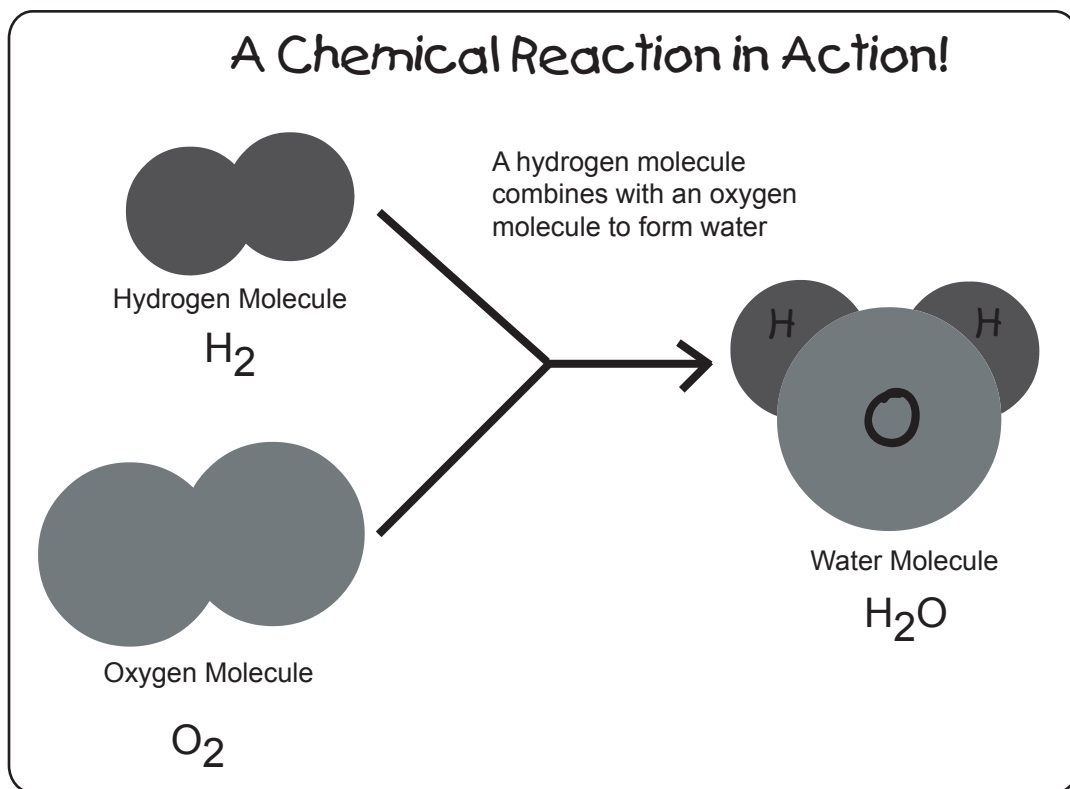


# CHEMICAL REACTIONS

## What is a chemical reaction?

A chemical reaction occurs when two or more molecules interact with each other. Chemical reactions happen every second of every day.

An example of a chemical reaction is the formation of water. In the formation of a water molecule, a hydrogen molecule ( $H_2$ ) combines with an oxygen molecule ( $O_2$ ). The result is a water molecule ( $H_2O$ ). Look at the example below.



## ACTIVITY



Use the **Acid & Base, Electro Chemistry, and Color Mixer Models** to study chemical reactions.

What happens when one car collides with another car? What is the result of this kind of interaction?

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# Chemical Change versus Physical Change

Unscramble each word and then use the clues to solve the phrase below.

TERCA 

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                  3    7            13

CEMLOELU 

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                  4    15            10

LECHIAMC 

--	--	--	--	--	--	--	--

  
                                  2

HENCAG 

--	--	--	--	--	--

  
                  1            11    16

YHCPSILA 

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  5    12            8

CENTTARI 

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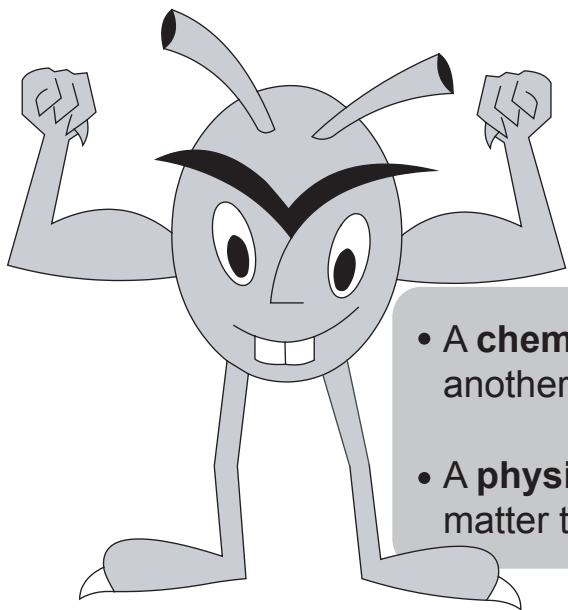
  
                  14                    9            6

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                  1    2    3    4    5    6    7    8    9    10    11    12    13    14    15    16

## CHEMICAL REACTION EXPERIMENT:

Take a teaspoon of baking soda and mix it with a glass of vinegar.  
What happens in the glass?



## Chemical Change versus Physical Change

Chemical change is different from physical change.  
Here are the differences:

- A **chemical change** happens when one molecule interacts with another molecule to form a totally new molecule.
- A **physical change** is when a molecule goes from one state of matter to the next, i.e., water turning into ice.

Using the chart below show whether the scenario is a physical change or chemical change. You may show your answer with a check mark. Explain your answer in the explanation section.

Scenario	Chemical Change	Physical Change	Explanation
Iron pipes that are rusting. Iron molecules combine with oxygen molecules to form another molecule			
One molecule combines with ten molecules to form a different molecule			
Ice turning into water			
Oxygen, in its gaseous state, changes to a liquid, forming liquid oxygen			
Sodium molecules combine with carbon molecules to form a different molecule			