Science Virtual Learning

6th Grade Science:

Chemical Reaction (Law of Conservation)

May 18, 2020

6th Grade Science
Lesson: May 18, 2020

Objectives/Learning Targets:

Students will understand The Law of Conservation of Mass and how it applies to chemical reactions.

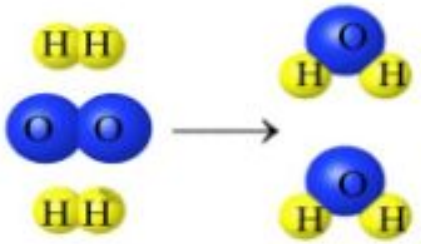
Warm Up

Watch this video for an introduction to The Law of Conservation of Mass.

Background Information

The Law of Conservation of Mass states matter cannot be created or destroyed, only conserved.

During a chemical reaction, the mass and number of atoms of reactants equals the total mass and and number of atoms of the products.



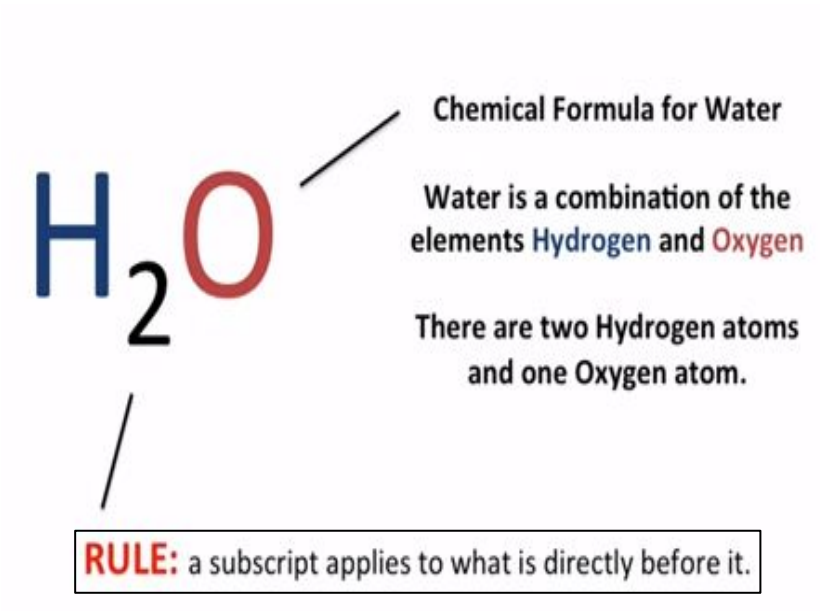
Notice there are equal numbers of hydrogen atoms and oxygen atoms on both sides.

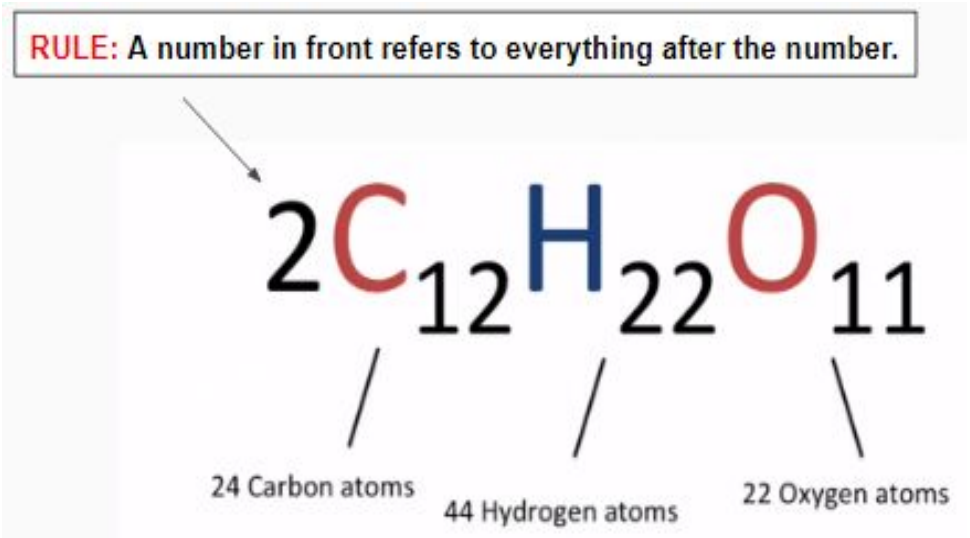
Reactants: The atoms you begin with, what is reacting

Products: The atoms you end with, what is produced

Background Information

How to Read Chemical Formulas:





Practice

1. On a seperate sheet of paper, record your answer to the prompt about cookie crumbles.

2. Once you choose your letter response, justify your answer with a written explanation.

Cookie Crumbles

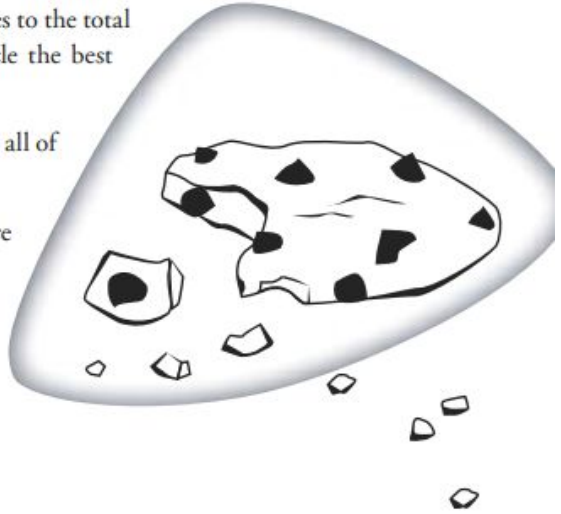
Imagine you have a whole cookie. You break the cookie into tiny pieces and crumbs. You weigh all of the pieces and crumbs. How do you think the weight of the whole cookie compares to the total weight of all the cookie crumbs? Circle the best answer.

A The whole cookie weighs more than all of the cookie crumbs.

B All of the cookie crumbs weigh more than the whole cookie.

C The whole cookie and all of the cookie crumbs weigh the same.

Describe your thinking. Provide an explanation for your answer.



Practice - Answer Key

1. On a seperate sheet of paper, record your answer to the prompt about cookie crumbles. C- the whole cookie and all of the cookie crumbs weight the same.

2. Once you choose your letter response, justify your answer with a written explanation. No pieces of the cookie where lost. The cookie has undergone a physical change, from a whole cookie to pieces, but is still a cookie. Therefore, the weight of the cookie will not change.

Cookie Crumbles

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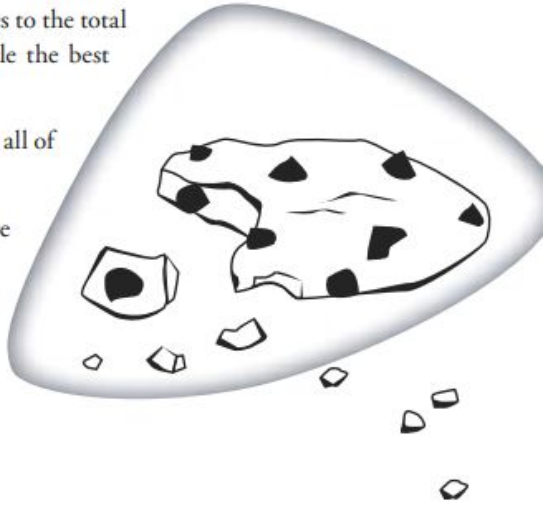
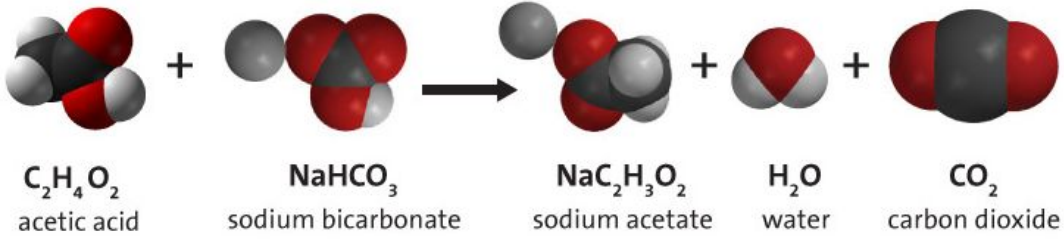


Practice

The molecules below show the chemical reaction that occurs when baking soda is mixed with vinegar. On a separate sheet of paper, record the number of atoms of the reactants and the number of atoms of the products. Does this chemical reaction demonstrate the Law of Conservation of Mass?

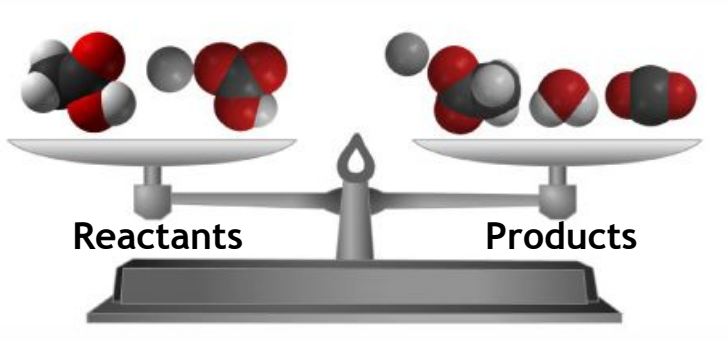


Reactants		Products	
Element	# of Atoms	Element	# of Atoms
C		C	
H		H	
O		O	
Na		Na	

Practice - Answer Key

Does this chemical reaction demonstrate the Law of Conservation of Mass?

Yes. The Law of Conservation of Mass states matter cannot be created or destroyed. When you look at the chart, you can see the reaction started and ended with the same number of atoms.



Reactants		Products	
Element	# of Atoms	Element	# of Atoms
C	3	C	3
H	5	H	5
O	5	O	5
Na	1	Na	1

Additional Practice

1. Test your knowledge with this quizizz.
2. Watch Professor Dave explain the Law of Conservation of Mass in detail in this video.
3. Read more about this law here. Feel free to change the reading level located underneath the picture of a glass of water.