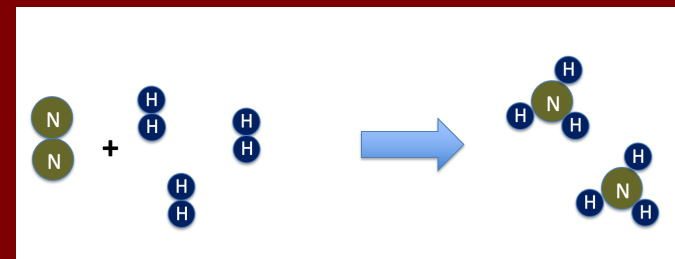
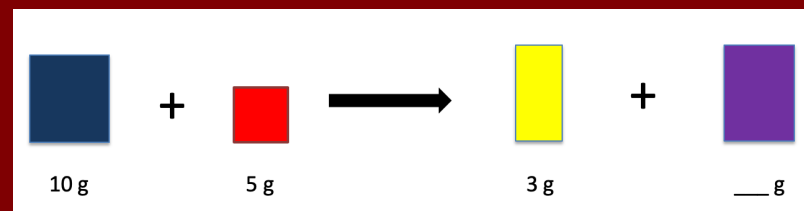
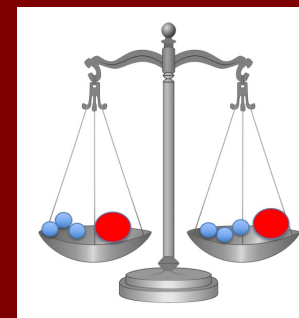


Law of Conservation of Mass

- Law of Conservation of Mass
- Chemical Reactions
- Reactants and Products
- Counting Atoms
- Practice Questions



Preview File

Please enjoy this preview of your Student Version of the presentation. Please note within this sample file:

- Some slides appear blank because they have been removed
- Student versions have portions of the text removed which is given in the teacher version and appear as _____ which the students are to fill in
- Other slides may have on them, this represents writing that has been removed on this sample

**The paid full version of your resource includes
both Google Slides and PowerPoint and is
Google Classroom Ready**



Law of Conservation of Mass

If we're building cars, we need 4 wheels and 1 car body.

How many full cars could you build if you had:

1) 8 wheels and 2 car bodies.

2) 6 wheels and 2 car bodies.

3) 12 wheels and 3 car bodies.



Law of Conservation of Mass

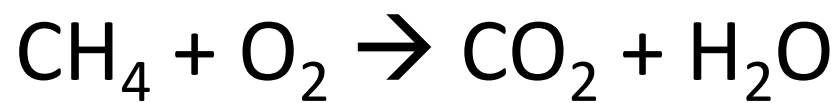
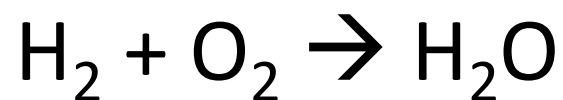
A fire is a chemical reaction. Where does the wood go?



**This Slide Has Been
Removed**

Chemical Reactions

Examples



All Chemical Reactions...

have two parts:

1. _____

2. Products = the substances you end up with.

The reactants will turn into the products.

If It Were Math $\rightarrow 2 + 2 = 4$

Reactants would be the question.

(Example $\rightarrow 2 + 2$)

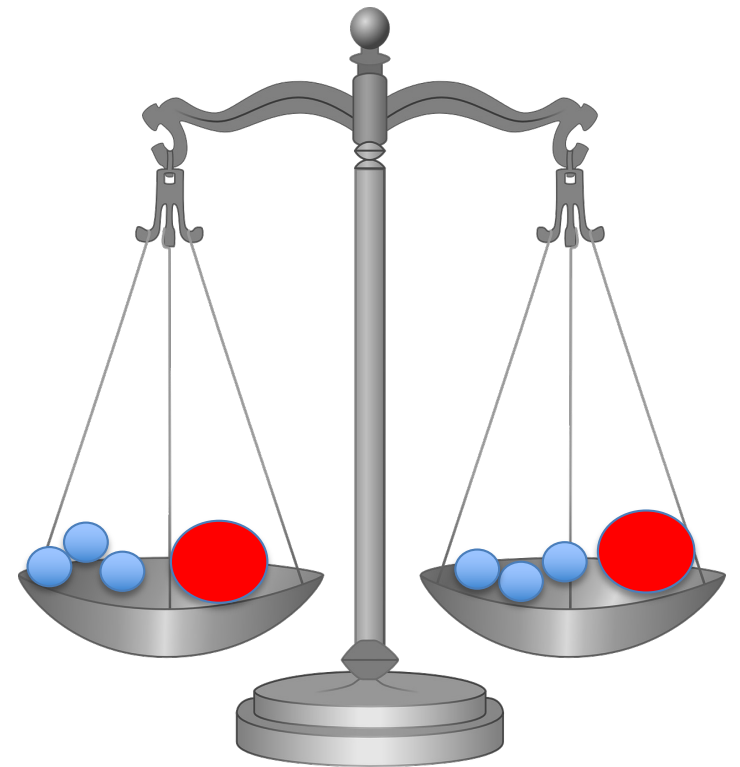
Products would be the answer.

(Example $\rightarrow 4$)

The reactants turn into the products.

Law of Conservation of Mass

- _____
- All the atoms that we start with must also be present at the end
- In ALL REACTIONS, there is the same number of each element before and after the reaction



**This Slide Has Been
Removed**

Check Your Understanding

If the blue block weighs 10 g and the red block weigh 5 g and they react to produce a 3 g yellow block and a purple block, what will the purple block weigh?



10 g

+

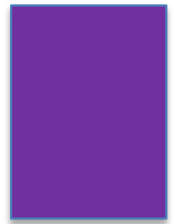


5 g



3 g

+



___ g

Counting Atoms

We can use the chemical formula to see how many of each atom are there. Example: H_2O



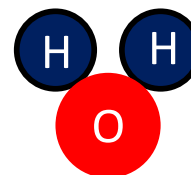
number to the right and below.

Example: Which atoms are found in H_2O and how many are there of each?

Counting Atoms – H₂O

The letters tell us what atoms there are

The numbers to the right and below are called the subscript and they tell us how many of that atom there are. If there is no number, there is still 1. H₂O



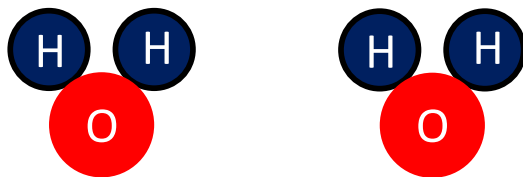
**This Slide Has Been
Removed**

Last Thing

A number in front of a symbol or compound tells us how many of the entire compound there is. This is called the coefficient.

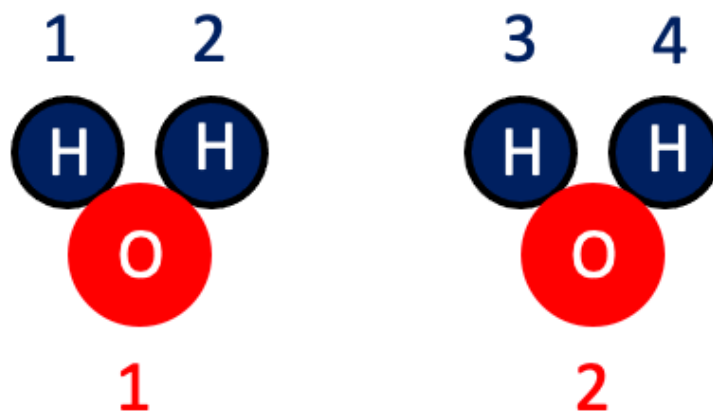
Example:

$2\text{H}_2\text{O}$ = There are two, H_2O molecules.



Counting Atoms

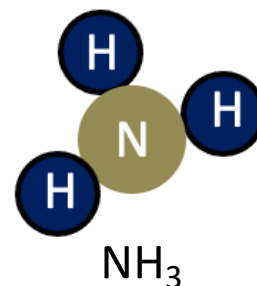
Putting it all together, we can see that there are 4 hydrogens and 2 oxygens in $2\text{H}_2\text{O}$



Check Your Understanding

Which atoms are present in 3NH_3 ?

How many of each atom are there?



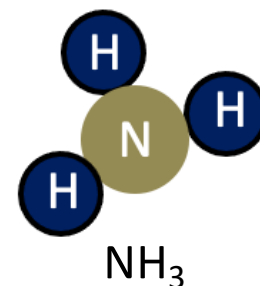
1) List the atoms present

**This Slide Has Been
Removed**

Check Your Understanding



Multiply each by the number in front.
It is called the coefficient.

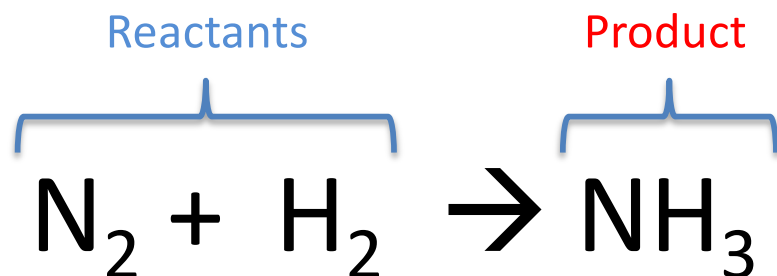


$$\text{N} \times 1 = 1 \times \underline{\quad}$$

$$\text{H} \times 3 = 3 \times \underline{\quad}$$

Check Your Understanding

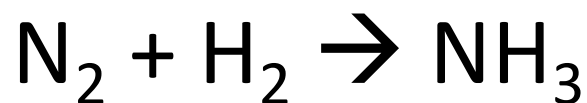
This is an example of a chemical reaction.



The atoms to the left (**reactants**) of the arrow combine to form the **product** to the right of it.

Check Your Understanding

We make ammonia (NH₃) by combining N₂ and H₂ as shown. Is this reaction correct?

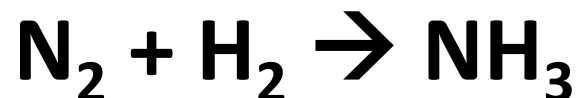


Make a chart that lists the atoms present with spaces to show how many atoms are present before and after the reaction.



**This Slide Has Been
Removed**

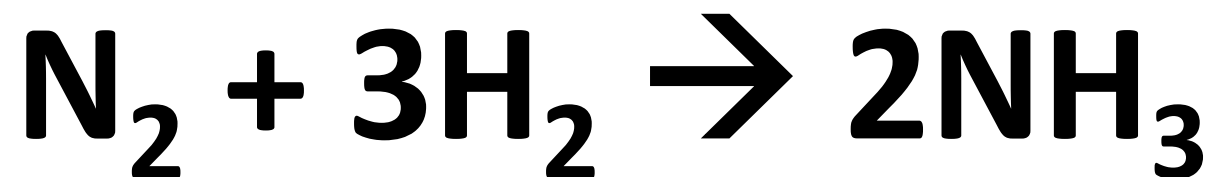
Check Your Understanding



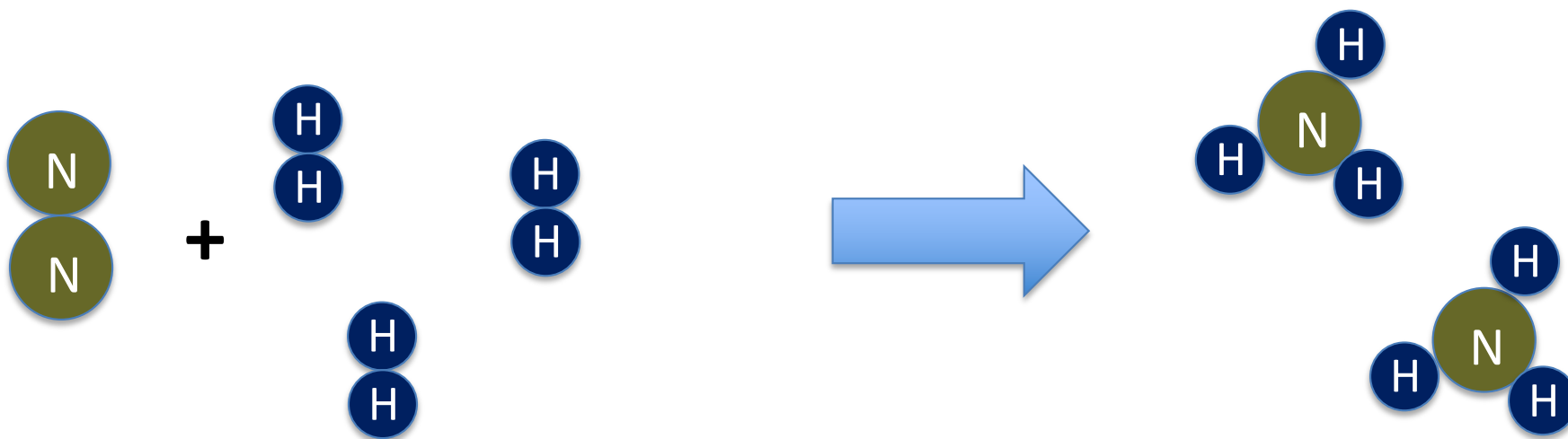
- 1) List the atoms present.
- 2) Write how many are present before and after the reaction.

Atoms	Before	After





This is what the reaction looks like.



Check Your Understanding

Are the following reactions correct? Count the atoms.

