

PS03A -Teach About Chemical Reactions

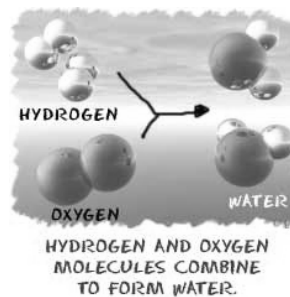
Use with BrishLab PS03A
Done By: StarMaterials Coach

[Image Link](#)

1- What is a chemical reaction?

Page 1

Para 1



Atoms combine in a new way to make something new.

[Image Link](#)

2- How are chemical reactions written in a shorthand form?

Page 1

Para 2

TABLE 1.2 Some Common Elements and Their Symbols

Carbon	C	Aluminum	Al	Copper	Cu (from <i>cuprum</i>)
Fluorine	F	Barium	Ba	Iron	Fe (from <i>ferrum</i>)
Hydrogen	H	Calcium	Ca	Lead	Pb (from <i>plumbum</i>)
Iodine	I	Chlorine	Cl	Mercury	Hg (from <i>hydrargyrum</i>)
Nitrogen	N	Helium	He	Potassium	K (from <i>kalium</i>)
Oxygen	O	Magnesium	Mg	Silver	Ag (from <i>argentum</i>)
Phosphorus	P	Platinum	Pt	Sodium	Na (from <i>natrium</i>)
Sulfur	S	Silicon	Si	Tin	Sn (from <i>stannum</i>)

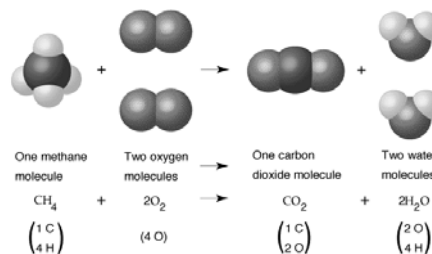
Elements are labeled with a one, two or three letter symbol - the first letter always capitalized.

[Image Link](#)

3- List two things to needed to predict a chemical reaction product.

Page 1

Para 3



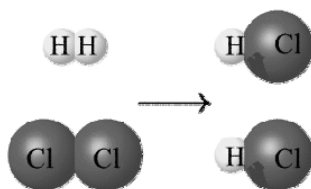
We can predict a reaction by counting the atoms and balancing a chemical equation.

[Image Link](#)

4- When compounds separate in a reaction, what happens after the reaction?

Page 1

Para 7



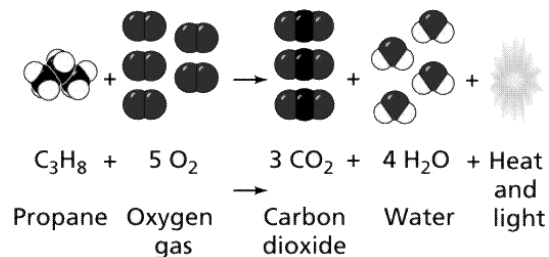
New chemical bonds are formed after a chemical reaction.

[Image Link](#)

5- List three ways that chemists can describe a chemical reaction.

Page 2

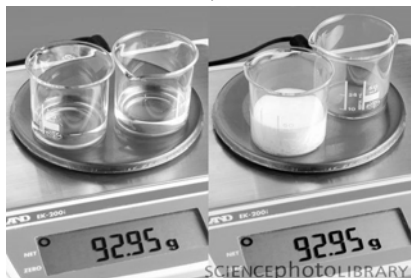
Para 8,9,10



Chemists can draw a picture, write a word equation or write in chemical "shorthand" a chemical reaction.

[Image Link](#)

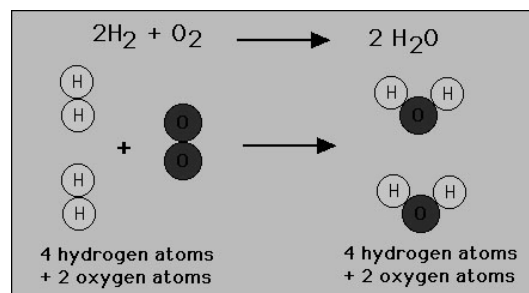
6- What is the law of conservation of mass and why is this important? Page 2
Para 11



In any chemical reaction, all the material at the beginning is there after the reaction. Nothing is created nor destroyed.

[Image Link](#)

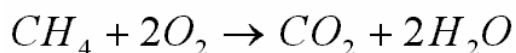
7- In a chemical reaction, how does the total number of atoms change? Page 2
Para 12



The number of atoms at the beginning of a reaction is equal to the same number after.

[Image Link](#)

8- In balancing chemical equations, what two types of numbers are used to make sure that the atoms are all balanced? Page 2
Para 13

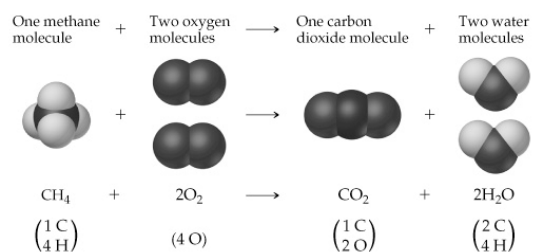


$$\begin{array}{l} \text{C}=1 \\ \text{H}=4 \\ \text{O}=4 \end{array} = \begin{array}{l} \text{C}=1 \\ \text{H}=4 \\ \text{O}=4 \end{array}$$

You balance equations by knowing the subscripts (number of atoms in a molecule) and coefficients (the number of molecules).

[Image Link](#)

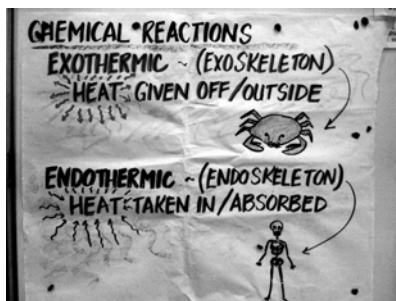
9- How are subscripts different than coefficients in a chemical equation? Page 2
Para 13



Subscripts are the number of atoms in a molecule. Coefficients are the number of molecules in a reaction.

[Image Link](#)

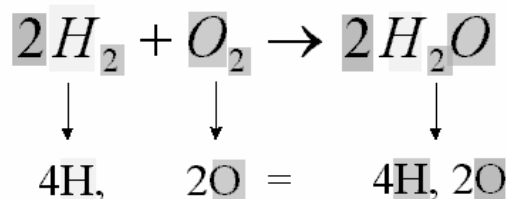
10- What is a good way to remember "exo" and "endo" thermic reactions correctly? Page 2
Para 16



Exo - means energy going out - or exiting. Endo is the other way.

[Image Link](#)

Wrap It Up: - Draw and color a balanced chemical equation. Page 2
Para 16



[Image Link](#)