



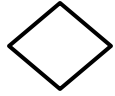




## Chemical Reactions

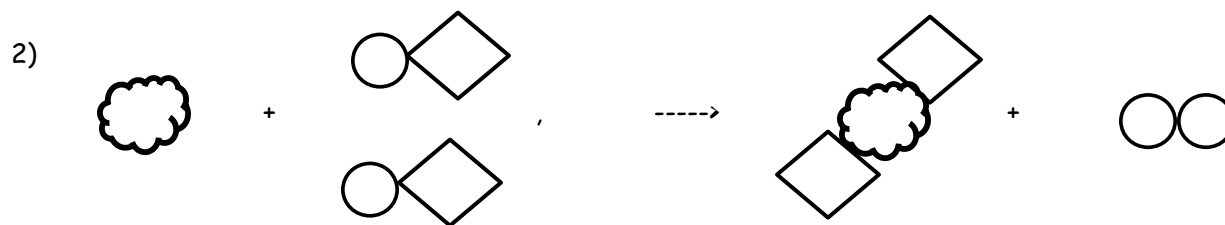
When substances undergo a chemical change, they have to change into another substance. To show this transformation, we write chemical reactions in word form and in symbol form. In this lesson, we will be translating between the three different ways that these reactions can be expressed.

Use the following key to draw and interpret models of elements and compounds containing hydrogen, carbon, nitrogen, oxygen and chlorine.

Model:							
Atom:	H	C	N	O	Cl	S	Ca

Part 1: Rewrite the following chemical reactions in formula form:

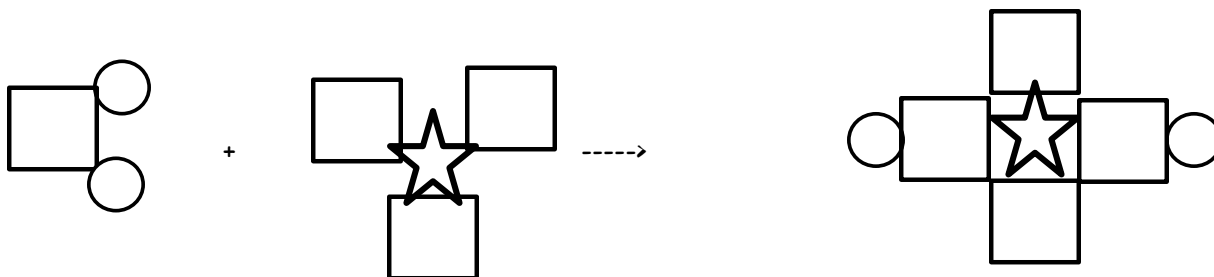
1) Two molecules of ethane ( $C_2H_6$ ) will react with seven molecules of oxygen ( $O_2$ ) to form four molecules of carbon dioxide ( $CO_2$ ) and six molecules of water ( $H_2O$ ).



3) 1 molecule of nitrogen ( $N_2$ ) is added to 3 molecules of hydrogen ( $H_2$ ) to produce 2 molecules of ammonia ( $NH_3$ ).

4) One molecule of baking soda ( $NaHCO_3$ ) will react with 1 molecule of vinegar ( $HC_2H_3O_2$ ) to make 1 molecule each of sodium acetate ( $NaC_2H_3O_2$ ), carbon dioxide and water.

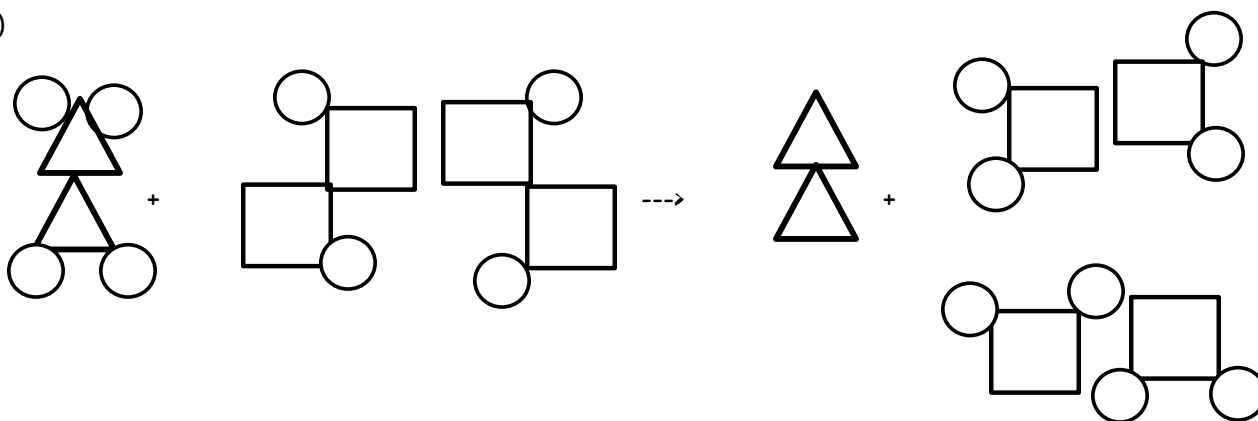
5)



6) One atom of magnesium reacts with one molecule of bromine ( $\text{Br}_2$ ) to make one molecule of magnesium bromide ( $\text{MgBr}_2$ ).

7) Two atoms of iron combine with three molecules of fluorine ( $\text{F}_2$ ) to make two molecules of iron (III) fluoride ( $\text{FeF}_3$ ).

8)



9) One molecule of hydrogen ( $\text{H}_2$ ) will react with one molecule of chlorine ( $\text{Cl}_2$ ) to produce two molecules of hydrogen chloride ( $\text{HCl}$ ).