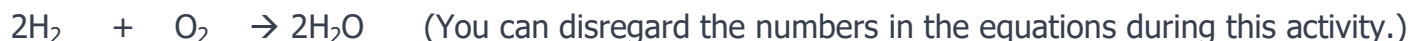


Name _____ Period _____

Elements and Compounds in Chemical Equations

A **chemical reaction** can take place when two or more substances react to form new substances. New substances are formed when the atoms in the substances are rearranged. A **chemical equation** shows us which substances are reacting (the **reactants**) and what new substances are being made (the **products**). The reactants are shown on the left and the products are shown on the right. For example: hydrogen and oxygen can react to form water as shown in the equation below.

hydrogen + oxygen → water



Some of the substances in an equation are elements and some are compounds. In the equation above, hydrogen and oxygen are elements and water is a compound. The number of elements and compounds in the reactants, the products, and in the entire equation can be seen in the table below.

	Elements	Compounds
Reactants	2	0
Products	0	1
Total	2	1

Let's see if you can identify the elements and compounds in some common chemical equations.

Photosynthesis is the process by which plants take in carbon dioxide, water, and sunlight to make glucose and oxygen. The chemical equation follows.



Fill in the chart below with the correct number of elements and compounds in the reactants, the products, and in the entire equation.

	Elements	Compounds
Reactants		
Products		
Total		

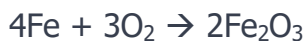
Respiration is the process by which you take in food (glucose) and oxygen for the purpose of releasing energy that you can use. Carbon dioxide and water are also produced. Look at the equation below and then fill in the chart with the appropriate numbers of elements and compounds.



	Elements	Compounds
Reactants		
Products		
Total		

Look at the following equations and then fill in the tables with the appropriate numbers of elements and compounds.

The rusting of iron.



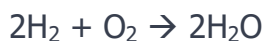
	Elements	Compounds
Reactants		
Products		
Total		

Burning methane.



	Elements	Compounds
Reactants		
Products		
Total		

List the names and symbols for all of the different elements that are involved in the equations below. (Even list the elements that are in compounds.) You may refer to a periodic table. The first one has been done for you.



Hydrogen (H), Oxygen (O)





