

Name: _____

Section: _____

Analyzing Chemical Equations

Directions: Read the following descriptions of the chemical reactions, look at the chemical equations, and complete the chart that follows.

1. *Propane burns. Propane combines with oxygen in the air to make carbon dioxide and water vapor. This chemical reaction takes place when a "gas" grill is used for cooking.*



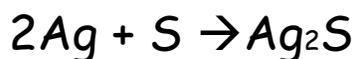
Which chemical formula(s) represents the <i>reactants</i> ?	Which chemical formula(s) represents the <i>products</i> ?
How many of each atom is present in the <i>reactants</i> ?	How many of each atom is present in the <i>products</i> ?
C -	C -
H -	H -
O -	O -
Is this a balanced equation? Explain.	

2. *An iron bar rusts. The iron reacts with oxygen in the air to make rust.*



Which chemical formula(s) represents the <i>reactants</i> ?	Which chemical formula(s) represents the <i>products</i> ?
How many of each atom is present in the <i>reactants</i> ?	How many of each atom is present in the <i>products</i> ?
Fe -	Fe -
O -	O -
Is this a balanced equation? Explain.	

3. *A silver spoon tarnishes. The silver reacts with sulfur in the air to make silver sulfide, the black material we call tarnish.*



Which chemical formula(s) represents the <i>reactants</i> ?	Which chemical formula(s) represents the <i>products</i> ?
How many of each atom is present in the <i>reactants</i> ?	How many of each atom is present in the <i>products</i> ?
Ag - S -	Ag - S -
Is this a balanced equation? Explain.	

4. *Living cells obtain energy from glucose molecules through the process of respiration which is the combustion of glucose to obtain energy.*



Which chemical formula(s) represents the <i>reactants</i> ?	Which chemical formula(s) represents the <i>products</i> ?
How many of each atom is present in the <i>reactants</i> ?	How many of each atom is present in the <i>products</i> ?
C - H - O -	C - H - O -
Is this a balanced equation? Explain.	

5. *Plant cells use water, carbon dioxide, and energy from the sun to produce glucose and oxygen. This process is called photosynthesis.*



Which chemical formula(s) represents the <i>reactants</i> ?	Which chemical formula(s) represents the <i>products</i> ?
How many of each atom is present in the <i>reactants</i> ?	How many of each atom is present in the <i>products</i> ?
C -	C -
H -	H -
O -	O -
Is this a balanced equation? Explain.	

6. *When mixed, vinegar (acetic acid) and baking soda (sodium bicarbonate) eventually produces sodium acetate, water, and carbon dioxide.*



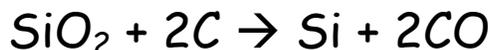
Which chemical formula(s) represents the <i>reactants</i> ?	Which chemical formula(s) represents the <i>products</i> ?
How many of each atom is present in the <i>reactants</i> ?	How many of each atom is present in the <i>products</i> ?
Na -	Na -
H -	H -
C -	C -
O -	O -
Is this a balanced equation? Explain.	

7. *Carbon and Oxygen react to create carbon monoxide. Carbon monoxide is very useful in the chemical industry, but it can also be deadly to animals, due to its ability to interfere with the delivery of oxygen in our blood.*



Which chemical formula(s) represents the <i>reactants</i> ?	Which chemical formula(s) represents the <i>products</i> ?
How many of each atom is present in the <i>reactants</i> ?	How many of each atom is present in the <i>products</i> ?
C - O -	C - O -
Is this a balanced equation? Explain.	

8. *Silicon, the second most common element in the earth's crust, is commonly used in semiconductors. Since it is naturally found in quartz, it is necessary to heat the quartz with carbon to separate the silicon.*



Which chemical formula(s) represents the <i>reactants</i> ?	Which chemical formula(s) represents the <i>products</i> ?
How many of each atom is present in the <i>reactants</i> ?	How many of each atom is present in the <i>products</i> ?
Si - O - C -	Si - O - C -
Is this a balanced equation? Explain.	