Name: _____ Date: _____

Atoms, Elements, and Molecules Warm-Up

Day 1

Describe each of the following key vocabulary terms using your own words.

Atom - _____

Element - _____

Molecule - _____

Subscript - _____

Coefficient - _____

Day 2

Determine the total number of atoms, elements, and molecules for each chemical formula on the chart below.

Chemical Formula	Number of Molecules	Number of Elements	Number of Total Atoms
$2H_2O_2$			
$4HCl$			
$3CH_4$			
$C_6H_{12}O_6$			
$5CaCl_2$			
$NaCl$			
$6NH_3$			
$3H_2O$			
$2Fe_2O_3$			
$8CO$			

Day 3

Answer questions 1-6 using the chemical equation below.

$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$
1. How many atoms of carbon are on the reactant side?
2. How many atoms of oxygen are on the product side?
3. How many total atoms are on the product side?
4. How many molecules of water are on the reactant side?
5. How many different elements are represented in this equation?
6. What important process does this equation represent?

Day 4

Draw a model of the following chemical formulas using the key.

1. H_2O
2. $2CO$
3. CH_4
4. O_2

Key

C = ○

H = ▦

O = ⁘

Day 5

Circle the correct answer for questions 1-4.

1. How many total atoms are in 3 molecules of CO_2 (carbon dioxide)?

A. 3
B. 6
C. 9
D. 12

2. How many elements are in the chemical formula for glucose ($C_6H_{12}O_6$)?

A. 1
B. 3
C. 12
D. 24

3. Which chemical formula below contains the greatest amount of total atoms?

A. CO
B. Fe_2O_3
C. C_2H_4
D. C_2H_6O

4. Which chemical formula below contains 2 different elements?

A. CO
B. Fe_2O_3
C. C_2H_4
D. All of the above

Name: _____ Date: _____

Atoms, Elements, and Molecules Warm-Up

Day 1

Describe each of the following key vocabulary terms using your own words.

Atom - the basic building blocks of matter that make up everything

Element - a pure substance that cannot be broken down chemically

Molecule - two or more atoms joined together chemically

Subscript - a number written immediately after an element's symbol in a chemical formula that refers to the amount of atoms of that element

Coefficient - a number in front of an element or compound that indicates the number of molecules in a chemical formula

Day 2

Determine the total number of atoms, elements, and molecules for each chemical formula on the chart below.

Chemical Formula	Number of Molecules	Number of Elements	Number of Total Atoms
$2H_2O_2$	2	2	8
$4HCl$	4	2	8
$3CH_4$	3	2	15
$C_6H_{12}O_6$	1	3	24
$5CaCl_2$	5	2	15
$NaCl$	1	2	2
$6NH_3$	6	2	24
$3H_2O$	3	2	9
$2Fe_2O_3$	2	2	10
$8CO$	8	2	16

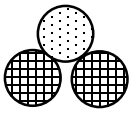
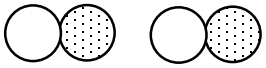
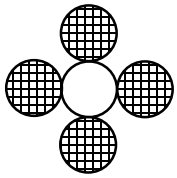
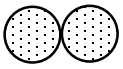
Day 3

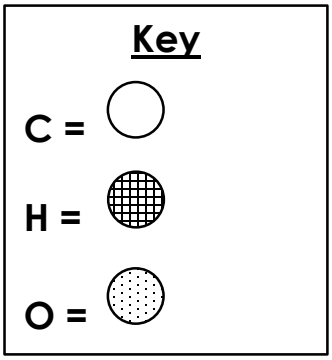
Answer questions 1-6 using the chemical equation below.

$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$
1. How many atoms of carbon are on the reactant side? 6
2. How many atoms of oxygen are on the product side? 18
3. How many total atoms are on the product side? 36
4. How many molecules of water are on the reactant side? 6
5. How many different elements are represented in this equation? 3
6. What important process does this equation represent? Photosynthesis

Day 4

Draw a model of the following chemical formulas using the key.

1. H_2O 
2. 2CO 
3. CH_4 
4. O_2 



Day 5

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C. C_2H_4
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