CHEMICAL FORMULAS ASSIGNMENT Name:_____

1. A form of sugar called glucose has the chemical formula $C_6H_{12}O_6$. From this formula, state the name of the elements and the number of atoms needed to make one molecule of glucose.

	Element Name	**Atoms**
C		
O		
H		

2. State the identity and the number of atoms of each element in the given number of molecules in the table below.

Table of Atoms Forming Compounds			
Compound	**# of Molecules**	**Element Names**	**# of Atoms of each element**
$KHCO_3$	1 molecule	, , ,	K = , H = , C = , O =
$AlCl_3$	3 molecules	,	Al = , Cl =
CBr_4	6 molecules	,	C = , Br =
H_2SO_4	5 molecules	, ,	H = , S = , O =
$C_{11}H_{22}O_{12}$	4 molecules	, ,	C = , H = , O =

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3. Match the following:

1. Simplest form of a substance	a. Al
2. Two or more atoms combined in a specific way	b. CO_2
3. Diatomic Molecule	c. He
4. Ozone's chemical formula	d. NaCl
5. Two or more materials combined to produce a new substance	e. O_2
6. Carbon Dioxide	f. O_3
7. Smallest particle of an element	g. Atom
8. Aluminum	h. Compound
9. Is stable since the outer electron shell is filled	i. Element
10. Table Salt	j. Molecule

4. A sample of air is brought into the lab and analyzed (taken apart). The sample was found to contain the following materials. State whether the components are in the form of an **atom** or a **molecule**.

a. Oxygen (O_2)
b. Ozone (O_3)
c. Carbon Dioxide (CO_2)
d. Carbon Monoxide (CO)
e. Nitrogen (N_2)
f. Argon (Ar)
g. Methane (CH_4)

5. Complete the table below by filling in the columns.

				# of atoms of Element 1	# of atoms of Element 2	# of atoms of Element 3
Chemical Formula	**Element 1**	**Element 2**	**Element 3**			
H_2SO_4						
Na_2O						
CCl_4						
Al_2O_3						
BeS						
KOH						

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Cu_3PO_4						

6. Explain why customs officials would be able to determine the contents of a chemicals package shipped from Russia even though they might not be able to speak Russian?

7. Analyze the molecules below by writing down the following:
    a. How many kinds of atoms there are in the molecule?
    b. How many atoms of each kind there are in this molecule?
    c. What is the total number of atoms this molecule?

    1. Na_2O
        a.
        b.
        c.

    2. H_2
        a.
        b.
        c.

    3. Al
        a.
        b.
        c.

4. S_8
    a.
    b.
    c.

5. H_3PO_4
    a.
    b.
    c.