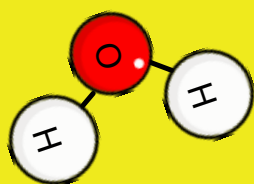


Atoms and Molecules Page 46



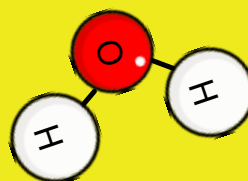
Recall

Atom: a particle in an element.

Example: In water there are two hydrogen atoms and one oxygen atom.

Molecule: a combination of two or more atoms.

Molecules can be made up of all the same kind of atom like O₂ or different atoms like H₂O.



Naming Elements Assignment

1) Using your periodic table, write the element's name that is associated with the symbols.

a) S Sulfur

b) F Fluorine

c) Al Aluminum

d) Cu Copper

e) Br Bromine

f) Na Sodium

g) H Hydrogen

h) Fe iron

i) O Oxygen

j) Li Lithium

2) Given the following elements name's write the symbol that is associated with them.

a) Calcium Ca

b) Carbon C

c) Nickel Ni

d) Neon Ne

e) Silver Ag

f) Chlorine Cl

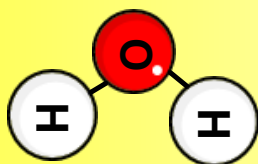
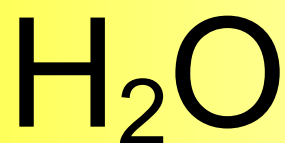
g) Gold Au

h) Magnesium Mg

i) Nitrogen N

j) Potassium K

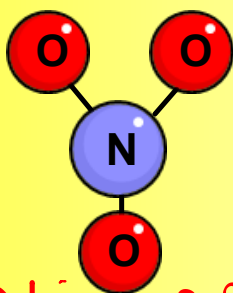
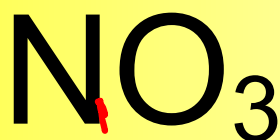
LETS VISUALIZE SOME MOLECULES AND COMPOUNDS



This Molecule contains:

2 Hydrogen1 OxygenTotal atoms: $2+1=3$ atoms

LETS VISUALIZE SOME MOLECULES AND COMPOUNDS



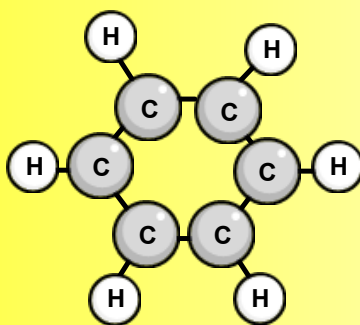
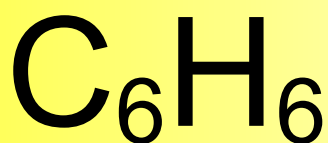
This Molecule contains:

1 Nitrogen atoms
3 Oxygen atoms

Total atoms: -

4 atoms

LETS VISUALIZE SOME MOLECULES AND COMPOUNDS



This Molecule contains:

6 Carbon atoms
6 Hydrogen atoms

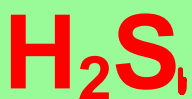
Total atoms -

12 atoms

RULES FOR COUNTING ATOMS

1) **SUBSCRIPTS** only refer to the atom that they are **BEHIND**.

Example:



Contains:

2 hydrogen atoms

Total atoms

1 Sulfur atom

→ 3 atoms

RULES FOR COUNTING ATOMS

2) COEFFICIENTS apply to the entire compound. You **MULTIPLY** the coefficients and **SUBSCRIPTS**.

Example:



IF THERE ISN'T A SUBSCRIPT BEHIND AN ELEMENT, ASSUME THERE IS ONLY ONE ATOM OF THAT ELEMENT!

Contains:

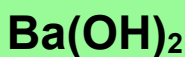
4 hydrogen atoms
2 sulfur atoms

Total atoms: $\underline{\quad}$ 6 atoms

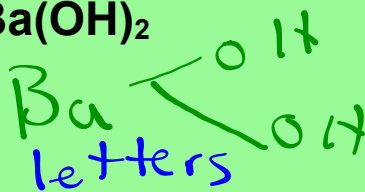
RULES FOR COUNTING ATOMS

3) If elements or compounds are inside of **BRACKETS**, then the **SUBSCRIPT** behind the parentheses applies to everything inside.

Example:



List capital letters



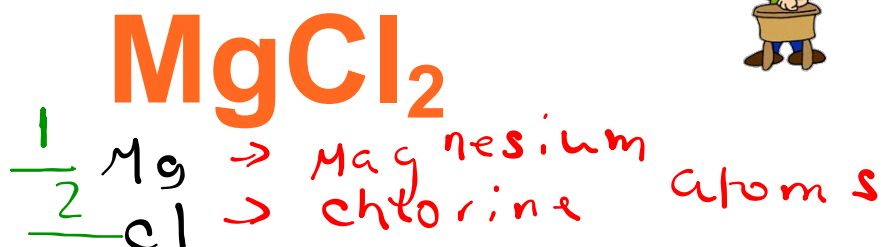
1 Ba \rightarrow Barium atom

2 O \rightarrow Oxygen atom

2 H \rightarrow Hydrogen atom

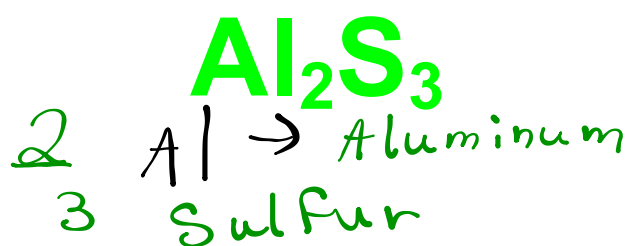
Total atoms = 5

LET'S PRACTICE!



Total of Atoms = 3

LET'S PRACTICE!



Total of Atoms = 5

LET'S PRACTICE!



2 Hydrogen atoms
1 Sulfur atoms
4 Oxygen atoms

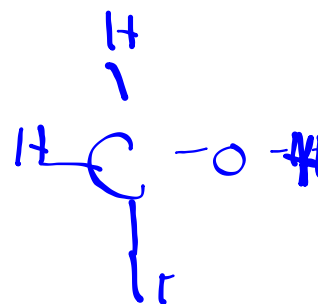
Total of Atoms = 7

LET'S PRACTICE!

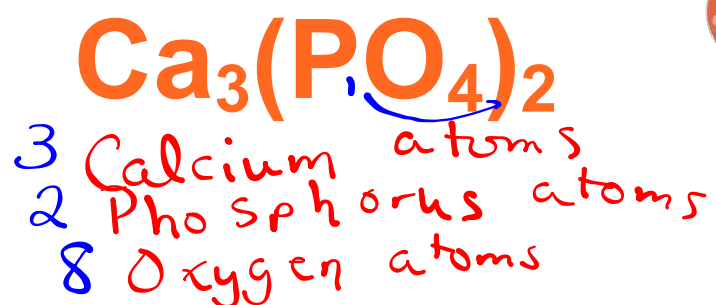


1 Carbon
1 Oxygen
4 Hydrogen

Total of Atoms = 6

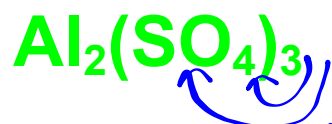


LET'S PRACTICE!



Total of Atoms = 13

LET'S PRACTICE!



2 Aluminum atoms
3 Sulfur atoms
12 - Oxygen atoms



Total of Atoms = 17

LET'S PRACTICE!



Ca Ca Ca
P O O O O
P O O O O

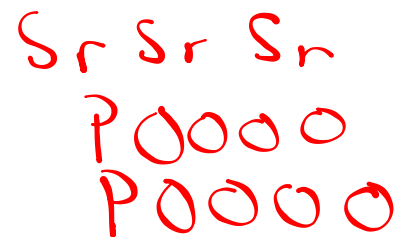
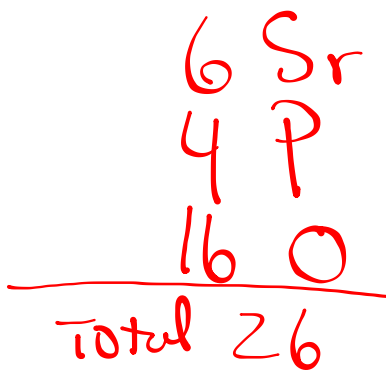
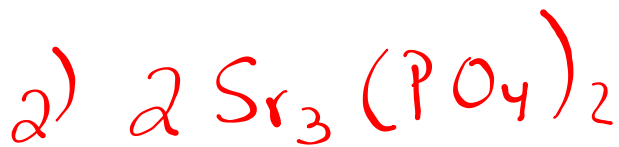
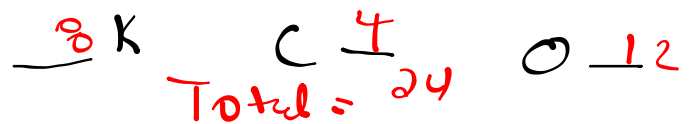
Ca Ca Ca
P O O O O
P O O O O

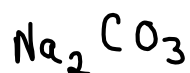


6 Ca → Calcium
4 P → phosphorus
16 Oxygen

Total of Atoms = 26

Total of Atoms = 26





$$\text{Na (sodium)} \rightarrow 2$$

$$\text{C (carbon)} \rightarrow 1$$

$$\text{O (oxygen)} \rightarrow 3$$

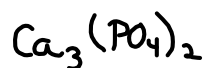
$$\text{Total} = 6$$



$$\text{Ba} \rightarrow 3$$

$$\text{Cl} \rightarrow 6$$

$$\text{Total} = 9$$



$$\text{Ca} \rightarrow 3$$

$$\text{P} \rightarrow 2$$

$$\text{O} \rightarrow 8$$

$$\text{Total} = 13$$



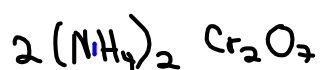
$$\text{N} \rightarrow 1$$

$$\text{H} \rightarrow 7$$

$$\text{C} \rightarrow 2$$

$$\text{O} \rightarrow 2$$

$$\text{Total} = 12$$



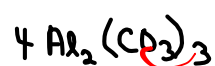
$$\text{N} \rightarrow 4$$

$$\text{H} \rightarrow 16$$

$$\text{Cr} \rightarrow 4$$

$$\text{O} \rightarrow 14$$

$$\text{Total} = 38$$



$$\text{Al} \rightarrow 8$$

$$\text{C} \rightarrow 12$$

$$\text{O} \rightarrow 36$$

$$\text{Total} = 56$$

Assignment Time



Attachments

Science 9 Day 8.5 - Solutions to Page 47 (Last night HW).notebook

Counting Atoms Assingment.notebook