

Counting Atoms

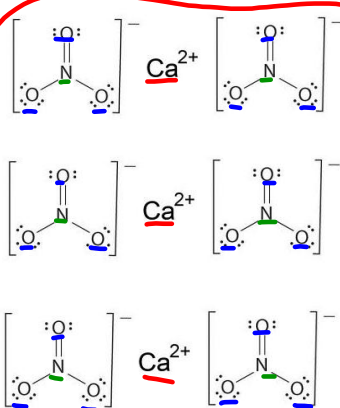
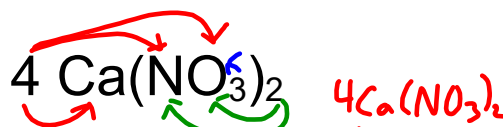
You **NEED** to be able to accurately count how many atoms are present if given a compound.



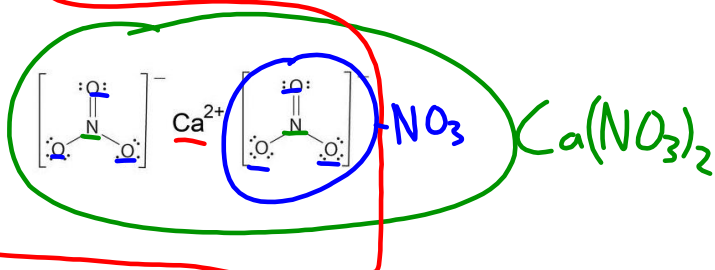
Type of atom	# of atoms
C	6
H	12
O	18
Total	36

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C	6
H	12
O	18
Total	36

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Type of atom	# of atoms
Ca	4
N	8 (2 × 4)
O	24 (2 × 3 × 4)
Total	36



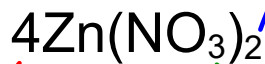
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Type of atom	# of atoms
P	10
O	15
Total	25

 2×5
 3×5

impacts
elements in
brackets



impacts
all elements

impacts
element
in front
of it

Type of atom	# of atoms
Zn	4
N	8
O	24
Total	36

 2×4
 $2 \times 3 \times 4$

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Worksheet

Counting atoms in compounds

Include the total number of atoms in the compound

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1.	$4K_2CO_3$	K = <u>8</u>	C = <u>4</u>	O = <u>12</u>
2.	$2Sr_3(PO_4)_2$	Sr = <u>6</u>	P = <u>4</u>	O = <u>16</u>
3.	$3N_4O_{10}$	N = <u>12</u>	O = <u>30</u>	
4.	$2(NH_4)_3N$	N = <u>8</u>	H = <u>24</u>	
5.	$8Cl_2O$	Cl = <u>16</u>	O = <u>8</u>	
6.	$Ca(C_2H_3O_2)_2$	Ca = <u>1</u>	C = <u>4</u>	H = <u>6</u> O = <u>4</u>
7.	$12NaBr$	Na = <u>12</u>	Br = <u>12</u>	
8.	$4Al(OH)_3$	Al = <u>4</u>	O = <u>12</u>	H = <u>12</u>
9.	$3NaHCO_3$	Na = <u>3</u>	H = <u>3</u>	C = <u>3</u> O = <u>9</u>
10.	$5Ga_2(Cr_2O_7)_3$	Ga = <u>10</u>	Cr = <u>30</u>	O = <u>105</u>
11.	$7C_2S_2$	C = <u>14</u>	S = <u>14</u>	
12.	$4Fe_2O_3$	Fe = <u>8</u>	O = <u>12</u>	
13.	$6Ba(MnO_4)_2$	Ba = <u>6</u>	Mn = <u>12</u>	O = <u>48</u>
14.	$3V_2O_5$	V = <u>6</u>	O = <u>15</u>	
15.	$2KNO_3$	K = <u>2</u>	N = <u>2</u>	O = <u>6</u>
16.	$9MgSO_4$	Mg = <u>9</u>	S = <u>9</u>	O = <u>36</u>
17.	$5Al_2(SiO_3)_2$	Al = <u>10</u>	Si = <u>10</u>	O = <u>30</u>
18.	$4Au(IO_3)_3$	Au = <u>4</u>	I = <u>12</u>	O = <u>36</u>

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19.	$8SnCl_4$	Sn = <u>8</u>	Cl = <u>32</u>
20.	$6Cu_2SeO_4$	Cu = <u>12</u>	Se = <u>6</u> O = <u>24</u>
21.	$3AsBr_3$	As = <u>3</u>	Br = <u>9</u>
22.	$2H_2SO_4$	H = <u>4</u>	S = <u>2</u> O = <u>8</u>
23.	SBr_2	S = <u>1</u>	Br = <u>2</u>
24.	$4Ca(OH)_2$	Ca = <u>4</u>	O = <u>8</u> H = <u>8</u>
25.	$5Mg_3(PO_4)_2$	Mg = <u>15</u>	P = <u>10</u> O = <u>40</u>
26.	$12H_2O$	H = <u>24</u>	O = <u>12</u>
27.	$5N_2O_4$	N = <u>10</u>	O = <u>20</u>
28.	$3ClF$	Cl = <u>3</u>	F = <u>3</u>
29.	$7P_2O_5$	P = <u>14</u>	O = <u>35</u>
30.	$2KrCl_6$	Kr = <u>2</u>	Cl = <u>12</u>
31.	$5Al(C_2H_3O_2)_2$	Al = <u>5</u>	C = <u>20</u> H = <u>30</u> O = <u>20</u>
32.	$3(NH_4)_2Cr_2O_7$	N = <u>6</u>	H = <u>24</u> Cr = <u>6</u> O = <u>21</u>
33.	$5Fe_3(PO_4)_2$	Fe = <u>15</u>	P = <u>10</u> O = <u>40</u>
34.	$2NH_4NO_3$	N = <u>4</u>	H = <u>8</u> O = <u>10</u>
35.	$5BaC_4H_4O_6$	Ba = <u>5</u>	C = <u>20</u> H = <u>20</u> O = <u>30</u>
36.	$4Cu(HSO_3)_2$	Cu = <u>4</u>	H = <u>8</u> S = <u>8</u> O = <u>24</u>
37.	$9Au(NO_2)_2$	Au = <u>9</u>	N = <u>18</u> O = <u>36</u>
38.	$3K_2ZnO_2$	K = <u>6</u>	Zn = <u>3</u> O = <u>6</u>
39.	$3Sr(MnO_4)_2$	Sr = <u>3</u>	Mn = <u>6</u> O = <u>24</u>
40.	$4Al_2(CO_3)_3$	Al = <u>8</u>	C = <u>12</u> O = <u>36</u>

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