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Blackline Master 2.7a

How to Count Atoms

1. The symbol of an element represents one atom of that element.

e.g. Na =

2. A subscript is a number written at the lower right corner behind the symbol of an element. If there is more than one atom of the element, then a subscript is used to indicate the number of atoms.

e.g. $H_2 =$

3. A subscript outside a bracket multiplies all the elements inside the brackets.

e.g. $Mg_3(PO_4)_2 =$

4. a) A coefficient is a number written in front of a chemical symbol and indicates the number of atoms of that element.

e.g. · 3 C =

OR

b) A coefficient is a number written in front of a chemical formula and indicates the number of molecules of that compound.

**NOTE:
A coefficient multiplies the number of atoms of each element in the formula.

e.g. 2 H₂O =

3 CuSO₄ =

 $4 \text{ Pb(NO}_3)_2 =$

Blackline Master 2.7b Counting Atoms Worksheet

a ₂ CO ₃		$Ca_3(PO_4)_2$	
Type of Atom	# of Atoms	.Type of Atom	# of Atoms
Na = Sodium	2		
Total		Total ·	
C ₂ CrO ₄		3 BaCl ₂	
Type of Atom	# of Atoms	Type of Atom	# of Atoms
		Total	
Total			
IH ₄ C ₂ H ₃ O ₂		4 Al ₂ (CO ₃) ₃	# of Atoms
	# of Atoms	4 Al ₂ (CO ₃) ₃ Type of Atom	# of Atoms
IH ₄ C ₂ H ₃ O ₂	# of Atoms		# of Atoms
NH ₄ C ₂ H ₃ O ₂ Type of Atom	# of Atoms	Type of Atom	# of Atoms
NH ₄ C ₂ H ₃ O ₂ Type of Atom	# of Atoms		
NH ₄ C ₂ H ₃ O ₂ Type of Atom Total	# of Atoms	Type of Atom	
Type of Atom Total		Type of Atom Total	
Type of Atom Total	# of Atoms # of Atoms	Type of Atom Total 2 (NH ₄) ₂ Cr ₂ O ₇ Type of Atom	
Type of Atom Total Pb(NO ₃) ₂		Type of Atom Total 2 (NH ₄) ₂ Cr ₂ O ₇	# of Atoms
Type of Atom Total		Type of Atom Total 2 (NH ₄) ₂ Cr ₂ O ₇ Type of Atom	