



Name

Section

Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
Hg	2+	1+
Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
lithium	oxygen		
silver	sulfur		
calcium	bromine		
aluminum	fluorine		
beryllium	chlorine		

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0			
89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)			

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Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
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Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
lithium	oxygen	<i>lithium oxide</i>	<i>Li_2O</i>
silver	sulfur	<i>silver sulfide</i>	<i>Ag_2S</i>
calcium	bromine	<i>calcium bromide</i>	<i>CaBr_2</i>
aluminum	fluorine	<i>aluminum fluoride</i>	<i>AlF_3</i>
beryllium	chlorine	<i>beryllium chloride</i>	<i>BeCl_2</i>

1 H 1.01																	2 He 4.00				
3 Li 6.94	4 Be 9.01															5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31															13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8				
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3				
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sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
sodium	oxygen		
silver	chlorine		
calcium	sulfur		
magnesium	nitrogen		
potassium	iodine		

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
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37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
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Ag	1+
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Polyatomic Ions

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carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
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ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
sodium	oxygen	sodium oxide	Na_2O
silver	chlorine	silver chloride	AgCl
calcium	sulfur	calcium sulfide	CaS
magnesium	nitrogen	magnesium nitride	Mg_3N_2
potassium	iodine	potassium iodide	KI

1 H 1.01																	2 He 4.00
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Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
sodium	phosphorus		
zinc	chlorine		
magnesium	bromine		
aluminum	nitrogen		
potassium	sulfur		

1 H 1.01																	2 He 4.00
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ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
silver	chlorine	silver chloride	AgCl
iron (II)	oxygen	iron (II) oxide	FeO
lead (IV)	phosphorus	lead (IV) phosphide	Pb_3N_4
copper (II)	nitrogen	copper (II) nitride	Cu_3N_2
sodium	oxygen	sodium oxide	Na_2O

1 H 1.01																	2 He 4.00
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19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0			
89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)			



Name _____

Section _____

Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
Hg	2+	1+
Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
zinc	chlorine		
mercury (II)	oxygen		
tin (II)	iodine		
aluminum	oxygen		
gold (I)	sulfur		

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0			
89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)			

Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
Hg	2+	1+
Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
zinc	chlorine	zinc chloride	ZnCl_2
mercury (II)	oxygen	mercury (II) oxide	HgO
tin (II)	iodine	tin (II) iodide	SnI_2
aluminum	oxygen	aluminum oxide	Al_2O_3
gold (I)	sulfur	gold (I) sulfide	Au_2S

1 H 1.01																	2 He 4.00				
3 Li 6.94	4 Be 9.01															5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31															13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8				
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3				
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)				
87 Fr (223)	88 Ra (226)	89-103 see below																			
			57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0				
			89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)				



Name

Section



Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
Hg	2+	1+
Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
silver	nitrate		
sodium	hydroxide		
potassium	phosphate		
lead (IV)	oxygen		
copper (II)	fluorine		

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
			57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0
			89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)

Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
Hg	2+	1+
Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
silver	nitrate	silver nitrate	AgNO_3
sodium	hydroxide	sodium hydroxide	NaOH
potassium	phosphate	potassium phosphate	K_3PO_4
lead (IV)	oxygen	lead (IV) oxide	PbO_2
copper (II)	fluorine	copper (II) fluoride	CuF_2

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0			
89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)			



Name

Section

Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
Hg	2+	1+
Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
magnesium	nitrite		
silver	nitrate		
potassium	bromine		
aluminum	hydroxide		
tin (IV)	phosphate		

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0			
89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)			

Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
Hg	2+	1+
Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
magnesium	nitrite	magnesium nitrite	$\text{Mg}(\text{NO}_2)_2$
silver	nitrate	silver nitrate	AgNO_3
potassium	bromine	potassium bromide	KBr
aluminum	hydroxide	aluminum hydroxide	$\text{Al}(\text{OH})_3$
tin (IV)	phosphate	tin (IV) phosphate	$\text{Sn}_3(\text{PO}_4)_4$

1 H 1.01																	2 He 4.00				
3 Li 6.94	4 Be 9.01															5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31															13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
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37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3				
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87 Fr (223)	88 Ra (226)	89-103 see below																			
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Name

Section

Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
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Fe	3+	2+
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Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
iron (III)	oxygen		
silver	chlorine		
tin (II)	sulfate		
calcium	carbonate		
hydrogen	sulfur		

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
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37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
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Ionic Compound Quiz

C3.8

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Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
iron (III)	oxygen	iron (III) oxide	Fe_2O_3
silver	chlorine	silver chloride	AgCl
tin (II)	sulfate	tin (II) sulfate	SnSO_4
calcium	carbonate	calcium carbonate	CaCO_3
hydrogen	sulfur	hydrogen sulfide	H_2S

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
			57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0
			89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)



Name

Section

Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
Hg	2+	1+
Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
copper (I)	oxygen		
mercury (I)	nitrogen		
calcium	sulfate		
magnesium	phosphate		
copper (II)	chlorine		

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0			
89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)			

Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
Hg	2+	1+
Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
copper (I)	oxygen	copper (I) oxide	Cu_2O
mercury (I)	nitrogen	mercury (I) nitride	Hg_3N
calcium	sulfate	calcium sulfate	CaS
magnesium	phosphate	magnesium phosphate	$\text{Mg}_3(\text{PO}_4)_2$
copper (II)	chlorine	copper (II) chloride	CuCl_2

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0			
89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)			



Name

Section

Ionic Compound Quiz

C3.8

Identify simple ionic compounds, simple compounds involving polyatomic ions, molecular compounds, & acids, using the periodic table & a list of the most common polyatomic ions, & write the formulae

Multivalent Metals

Symbol	Most common charge	Other charge
Cu	2+	1+
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Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
sodium	bicarbonate		
silver	oxygen		
calcium	chlorine		
iron (III)	fluorine		
cobalt (III)	sulfur		

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0			
89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)			



Ionic Compound Quiz

C3.8

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Multivalent Metals

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Au	3+	1+
Fe	3+	2+
Co	2+	3+
Ni	2+	3+
Pb	2+	4+
Sn	4+	2+

Other Metals

Ag	1+
Al	3+
Zn	2+

Polyatomic Ions

bicarbonate	HCO_3^-	-1
carbonate	CO_3^{2-}	-2
hydroxide	OH^-	-1
nitrate	NO_3^-	-1
nitrite	NO_2^-	-1
phosphate	PO_4^{3-}	-3
sulfate	SO_4^{2-}	-2
sulfite	SO_3^{2-}	-2
ammonium	NH_4^+	+1

Complete the following table:

Reactants		Product	
Metal	Nonmetal	Name	Formula
sodium	bicarbonate	sodium bicarbonate	NaHCO_3
silver	oxygen	silver oxide	Ag_2O
calcium	chlorine	calcium chloride	CaCl_2
iron (III)	fluorine	iron (III) fluoride	FeF_3
cobalt (III)	sulfur	cobalt (III) sulfide	Co_2S_3

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.8	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.2
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.9
19 K 39.10	20 Ca 40.08	21 Sc 45.0	22 Ti 47.9	23 V 50.9	24 Cr 52.0	25 Mn 54.9	26 Fe 55.8	27 Co 58.9	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.7	32 Ge 72.6	33 As 74.9	34 Se 79.0	35 Br 79.90	36 Kr 83.8
37 Rb 85.5	38 Sr 87.6	39 Y 88.9	40 Zr 91.2	41 Nb 92.9	42 Mo 95.9	43 Tc (99)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-71 see below	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 see below															
57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0			
89 Ac (227)	90 Th 232.0	91 Pa (231)	92 U 238.0	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)			