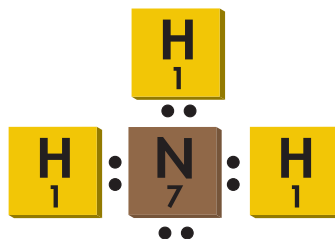


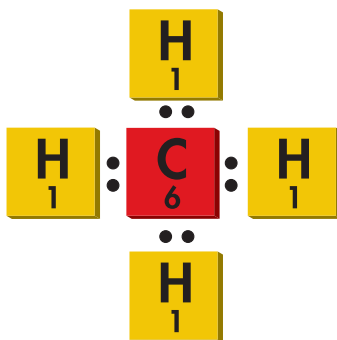
Lewis Dot Diagrams



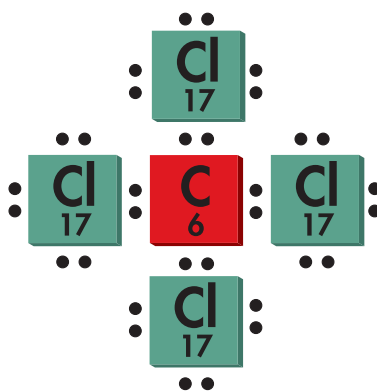
CO₂ Carbon dioxide



NH₃ Ammonia



CH₄ Methane



CCl₄ Carbon tetrachloride



Element Reactivity

← Electrons away from noble gas →

1	2	3	4		4	3	2	1									
H 1	↓	↓	↓			↓	↓	↓	↓	He 2							
Li 3	Be 4				B 5	C 6	N 7	O 8	F 9	Ne 10							
Na 11	Mg 12				Al 13	Si 14	P 15	S 16	Cl 17	Ar 18							
K 19	Ca 20	Sc 21	Ti 22	V 23	Cr 24	Mn 25	Fe 26	Co 27	Ni 28	Cu 29	Zn 30	Ga 31	Ge 32	As 33	Se 34	Br 35	Kr 36
Rb 37	Sr 38	Y 39	Zr 40	Nb 41	Mo 42	Tc 43	Ru 44	Rh 45	Pd 46	Ag 47	Cd 48	In 49	Sn 50	Sb 51	Te 52	I 53	Xe 54

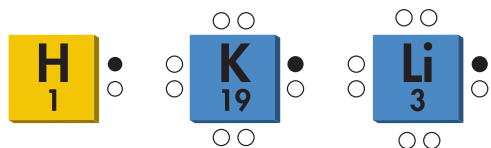
Not reactive
 Moderately reactive
 Very reactive

Oxidation Numbers

1+	2+	Most common oxidation number										3+	4+	3-	2-	1-	
Li 3	Be 4											B 5	C 6	N 7	O 8	F 9	He 2
Na 11	Mg 12											Al 13	Si 14	P 15	S 16	Cl 17	Ne 10
K 19	Ca 20	Sc 21	Ti 22	V 23	Cr 24	Mn 25	Fe 26	Co 27	Ni 28	Cu 29	Zn 30	Ga 31	Ge 32	As 33	Se 34	Br 35	Kr 36
Rb 37	Sr 38	Y 39	Zr 40	Nb 41	Mo 42	Tc 43	Ru 44	Rh 45	Pd 46	Ag 47	Cd 48	In 49	Sn 50	Sb 51	Te 52	I 53	Xe 54

NOTE: Many elements have more than one possible oxidation number.

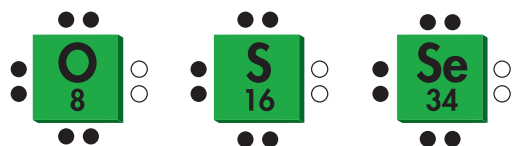
Oxidation number of 1+
(need to lose 1 electron)



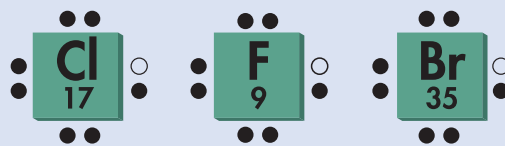
Oxidation number of 2+
(need to lose 2 electrons)



Oxidation number of 2-
(need to gain 2 electrons)

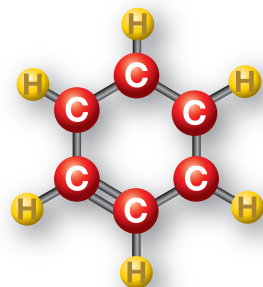


Oxidation number of 1-
(need to gain 1 electron)



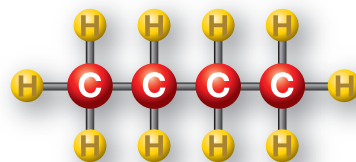
Carbon Molecules

Rings



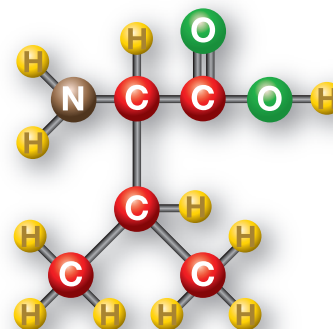
Benzene
 C_6H_6

Chain



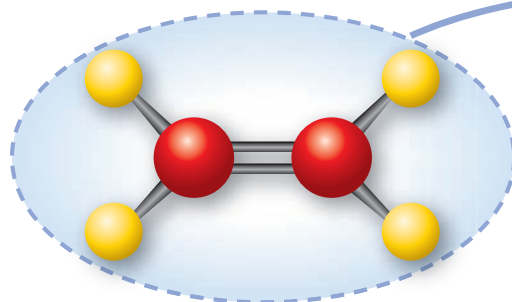
Butane
 C_4H_{10}

Branched

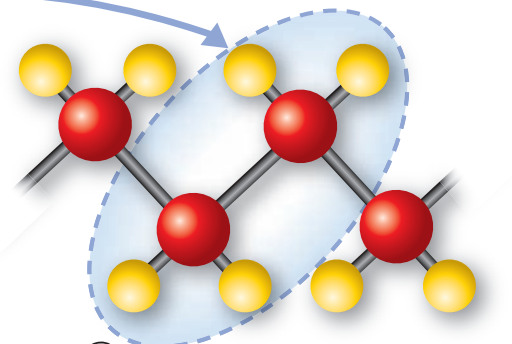


Valine
 $C_5H_{11}NO_2$

Ethylene



Plastic



DNA and Nucleic Acids

