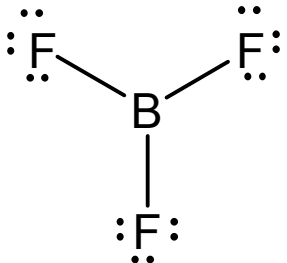
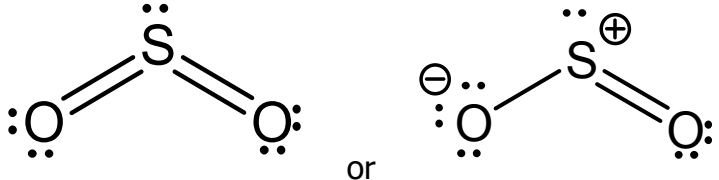
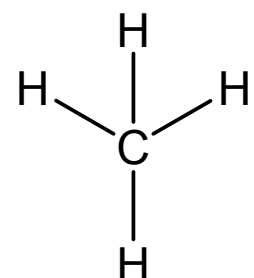
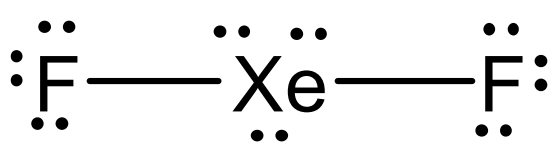
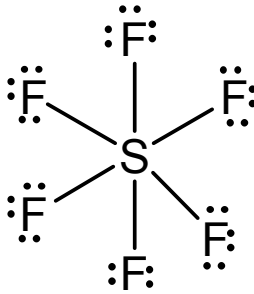


Basic Competency Quiz #4
Chemistry, 7th ed., Zumdahl & Zumdahl, sections 8.12-9.1

Complete the following table. Each "blank" is worth 1 point.

FORMULA	LEWIS STRUCTURE (<i>don't draw multiple resonance structures; do include formal charges</i>)	HYBRIDIZATION on CENTRAL ATOM	BOND ANGLES	MOLECULAR GEOMETRY	POLAR?
BF ₃		sp ²	120°	trigonal planar	no
SO ₂	 <p><i>The structure on the left is much better, but the one on the right strictly satisfies the Octet Rule, so it isn't grossly incorrect.</i></p>	sp ²	≤120°	"bent" or "V" or "angular"	yes

FORMULA	LEWIS STRUCTURE (<i>don't draw multiple resonance structures; do include formal charges</i>)	HYBRIDIZATION on CENTRAL ATOM	BOND ANGLES	MOLECULAR GEOMETRY	POLAR?
CH₄		sp³	~109°	tetrahedral	no
XeF₂		sp³d	180°	linear	no
SF₆		sp³d²	90°	octahedral	no

Basic Competency Quiz #4
Chemistry, 7th ed., Zumdahl & Zumdahl, sections 8.12-9.1

Wallace

revised 2/12/2008

Abbreviated Periodic Table of the Elements

1 1A																	18 8A
1 H 1.008	2 2A											13 3A	14 4A	15 5A	16 6A	17 7A	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.81	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.18
11 Na 22.99	12 Mg 24.31	3 3B	4 4B	5 5B	6 6B	7 7B	8 8B	9 8B	10 8B	11 1B	12 2B	13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.95
19 K 39.10	20 Ca 40.08	21 Sc 44.96	22 Ti 47.88	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.55	30 Zn 65.38	31 Ga 69.72	32 Ge 72.59	33 As 74.92	34 Se 78.96	35 Br 79.90	36 Kr 83.80
37 Rb 85.47	38 Sr 87.62	39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.94	43 Tc (98)	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 La* 138.9	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 Ac** (227)	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Uun	111 Uuu	112 Uub						