Lewis Structures
Chemistry

1   Draw Lewis structures for the following diatomic molecules:
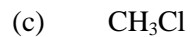(a) H_2 (b) N_2 (c) Cl_2 (a) O_2 (b) Br_2

2   Draw Lewis structures for the following:
(a) NCl_3 (b) SeF_2 (c) CH_3Cl

(d) H_2O (e) SiH_4 (f) OF_2

(g) PBr_3 (h) CH_3OH (i) CO

(j) CS_2 (k) H_2CO_3 (l) H_2O_2
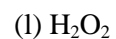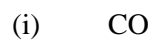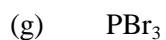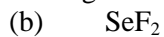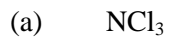
3   Draw Lewis structures for each of the following compounds. Then give the **common name** for each.
(a) C_2H_6 (b) C_2H_4 (c) C_2H_2

(d) N_2H_4 (e) NH_3 (f) N_2H_2
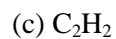
VSEPR
Chemistry

Name _____

1   Give the number and arrangement of the electron pairs around the central atom:

(a) C in CCl_4 (b) S in H_2S (c) Al in AlH_3

2   Use VSEPR theory to predict the structure of these polyatomic ions:

(a)   ammonium ion   (b)   nitrate ion

3   Use VSEPR theory to predict the shape of these molecules:

(a) SiH_4 (b) PH_3 (c) SeF_2

4   Consider the two molecules BF_3 and NH_3. First draw their Lewis structures and molecular geometries according to VSEPR. Then compare and contrast them in terms of the following:

(a) valence-level orbitals on the central atom that are used for bonding
(b) shape of the molecule
(c) number of lone electron pairs on the central atom
(d) type and number of bonds found in the molecule

	BF_3	NH_3
Structure		
(a)		
(b)		
(c)		
(d)		