

Unit 6 Part 2 Molecular Compounds and Covalent Bonding

KEY

Quiz Review

1 - Quick Review - Compounds to Bond Types

Match the following compounds to the three bond types.

Each answer may be used once, more than once, or not at all.

C) Covalent Bond (nonmetal to non) I) Ionic Bond (metal to non) M) Metallic Bond (metals only)

I 1. KBr

I 6. CaCl₂

I 11. ZnI₂

M 2. Cu

C 7. Br₂

M 12. Ag

C 3. CO₂

I 8. Na₂O

I 13. NaCl

M 4. Pb

C 9. SiO₂

C 14. C_(graphite)

C 5. CH₄

M 10. brass (Cu + Zn)

C 15. C₃H₈

2 - Lewis Dots of Elements & Ions

Draw Lewis Dot Symbols of the following elements and ions:

Na Na•	Cl :Cl:	O •O•	I •I•	Al •Al•
-----------	------------	----------	----------	------------

K ⁺ K ⁺	F ⁻ :F:	S ²⁻ :S:	Br ⁻ :Br:	Ca ²⁺ Ca ²⁺
----------------------------------	-----------------------	------------------------	-------------------------	--------------------------------------

3 - Electronegativity & Bond Type

Given the following pairs of elements and their electronegativities, decide on the type of bond the two atoms will exhibit and show any charge distribution that might occur (for example: A⁺ & B⁻ or A^{δ+} & B^{δ-})

elements	Higher Electronegativity	Lower Electronegativity	Difference	Bond Type	charge distribution
C-O	3.5	2.5	1.0	Polar Covalent	$\overset{\delta-}{\text{C}}-\overset{\delta+}{\text{O}}$
Li-N	3.0	1.0	2.0	Ionic	Li ⁺ -N ⁻
N-I	3.0	2.5	0.5	Polar Covalent	$\overset{\delta-}{\text{N}}-\overset{\delta+}{\text{I}}$
H-Cl	3.0	2.1	0.9	Polar Covalent	$\overset{\delta-}{\text{H}}-\overset{\delta+}{\text{Cl}}$
N-N	3.0	3.0	0.0	Non Polar Covalent	N-N
B-F	4.0	2.0	2.0	Ionic	B-F
O-H	3.5	2.1	1.4	Polar Covalent	$\overset{\delta-}{\text{O}}-\overset{\delta+}{\text{H}}$

Molecular Compounds - How Do Atoms Stick Together?

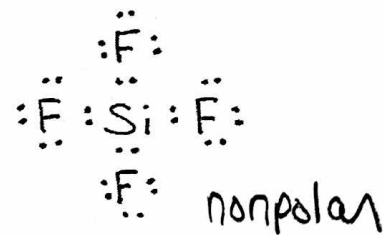
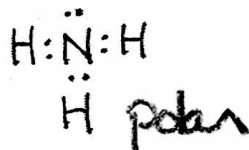
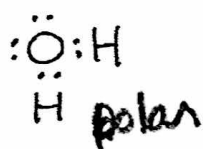
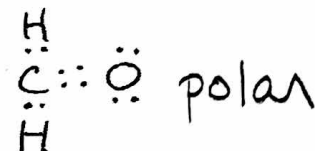
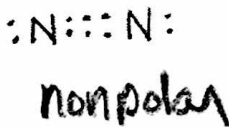
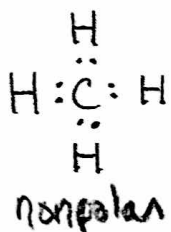
4 - Lewis Dots of Molecules

Draw the Lewis Symbols of the following molecules. Only single bonds are used.

Br_2 $14e^-$ 	CBr_4 	H_2O_2
S_2O H_2S 	PH_3 	SiH_4

5 - Polar or Non-polar Molecule?

State whether each molecule below is polar or non-polar. Explain to each other why you made your choice.



6 - Lewis Dots of Molecules

Draw the Lewis Symbols of these molecules that include double and triple bonds.

P_2 	Se_2 	C_2Cl_2 $8+14=22$
------------------	-------------------	---------------------------------------