

Matching: Match each term to its brief description.

_____ 1.	A bond in which an electron pair is shared unequally	A. Lone pair
_____ 2.	A representation of covalent bonding based on Lewis symbols; shared electron pairs are shown as lines and lone pairs are shown as dots	B. Covalent Bond
_____ 3.	A pair of electrons in the outermost shell that is not involved in bonding	C. Nonelectrolyte
_____ 4.	A chemical bond in which one or more pairs of electrons are shared by two atoms	D. Ionic bond
_____ 5.	A measure of an atom's ability to attract electrons in a covalent bond	E. Lewis structure
_____ 6.	The bond that results from the electrostatic force of attraction between positive and negative ions	F. Octet rule
_____ 7.	Electrons that are found in the outermost shell of an atom	G. Electrolyte
_____ 8.	A diagram that is composed of chemical symbol and dots depicting the electrons found in the outermost shell of an atom or ion	H. Cation
_____ 9.	Atoms gain or lose electrons in their outermost shells in order to attain a noble gas configuration	I. Polar covalent bond
_____ 10.	An atom that possesses more electrons than protons	J. Lewis symbol
_____ 11.	An atom that possesses more protons than electrons	K. Electronegativity
_____ 12.	A compound, that when dissolved in water, produces a solution that conducts electricity	L. Valence electrons
_____ 13.	A compound, that when dissolved in water, does not produce a solution that conducts electricity	M. Anion

Answer the following questions.

14. Draw Lewis structures for O_2 , C_2H_4 , and Br_2 .

15. State whether each of the following compounds contains ionic bonds, pure covalent bonds, slightly polar covalent bonds or polar covalent bonds. (Hint: calculate ΔEN)

a. $LiCl$

b. MgO

c. N_2

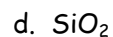
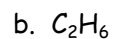
d. CO_2

e. $CaCl_2$

16. Draw Lewis symbols for each of the following **ionic compounds**:



17. Draw Lewis symbols for each of the following **covalent compounds**:



18. List some physical properties that can be used to determine whether or not a substance is ionic or molecular.

Ionic properties

Covalent properties

19. Write a general rule that may be used to determine whether or not a solid is molecular or ionic, based on the elements that comprise it.