

- Which element reacts with oxygen to form ionic bonds?
A) calcium B) hydrogen
C) chlorine D) nitrogen
- Which element forms an ionic compound when it reacts with lithium?
A) K B) Fe C) Kr D) Br
- An ionic compound is formed when there is a reaction between the elements
A) strontium and chlorine
B) hydrogen and chlorine
C) nitrogen and oxygen
D) sulfur and oxygen
- The bonds in BaO are best described as
A) covalent, because valence electrons are shared
B) covalent, because valence electrons are transferred
C) ionic, because valence electrons are shared
D) ionic, because valence electrons are transferred
- When sodium and fluorine combine to produce the compound NaF, the ions formed have the same electron configuration as atoms of
A) argon, only
B) neon, only
C) both argon and neon
D) neither argon nor neon
- Which substance contains bonds that involved the transfer of electrons from one atom to another?
A) CO₂ B) NH₃ C) KBr D) Cl₂
- Which type of bond results when one or more valence electrons are transferred from one atom to another?
A) a hydrogen bond
B) an ionic bond
C) a nonpolar covalent bond
D) a polar covalent bond
- Which type of bond is found in sodium bromide?
A) covalent B) hydrogen
C) ionic D) metallic
- Which compound contains both ionic and covalent bonds?
A) CaCO₃ B) PCl₃
C) MgF₂ D) CH₂O
- Which sample contains particles in a rigid, fixed, geometric pattern?
A) CO₂(aq) B) HCl(g)
C) H₂O(l) D) KCl(s)
- Which type of bond is formed when electrons are transferred from one atom to another?
A) covalent B) ionic
C) hydrogen D) metallic
- Which formula represents an ionic compound?
A) NaCl B) N₂O C) HCl D) H₂O
- Which compound contains ionic bonds?
A) NO B) NO₂ C) CaO D) CO₂
- Which kind of compound generally results when nonmetal atoms chemically combine with metal atoms?
A) hydrogen B) ionic
C) covalent D) metallic
- Which elements combine by forming an ionic bond?
A) sodium and potassium
B) sodium and oxygen
C) carbon and oxygen
D) carbon and sulfur
- When a reaction occurs between atoms with ground-state electron configurations of 2-1 and 2-7, the bond formed is mainly
A) polar covalent B) nonpolar covalent
C) metallic D) ionic
- Which type of bond is formed when an atom of potassium transfers an electron to a bromine atom?
A) metallic B) ionic
C) nonpolar covalent D) polar covalent

18. Element X is in Group 2 and element Y is in Group

17. What happens when a compound is formed between these two atoms?

- A) X loses electrons to Y to form an ionic bond.
- B) X loses electrons to Y to form a covalent bond.
- C) X gains electrons from Y to form an ionic bond.
- D) X gains electrons from Y to form a covalent bond.

19. Which atom will form an ionic bond with a Br atom?

- A) N B) Li C) O D) C

20. When ionic bonds are formed, metallic atoms tend to

- A) lose electrons and become negative ions
- B) lose electrons and become positive ions
- C) gain electrons and become negative ions
- D) gain electrons and become positive ions

21. Which compound contains both ionic and covalent bonds?

- A) HBr B) CBr_4
- C) NaBr D) NaOH

22. As sodium reacts with fluorine to form the compound NaF, each sodium atom will

- A) gain 1 electron B) gain 2 electrons
- C) lose 1 electron D) lose 2 electrons

23. Which compound is ionic?

- A) HCl B) CaCl_2
- C) SO_2 D) N_2O

24. Which electron-dot diagram best represents a compound that contains both ionic and covalent bonds?

- A) $\text{H}:\ddot{\text{S}}:\text{H}$
- B) $\text{Ca}^{2+} \left[\begin{array}{c} \ddot{\text{O}}: \\ \ddot{\text{O}}:\ddot{\text{S}}:\ddot{\text{O}}: \\ \ddot{\text{O}}: \end{array} \right]^{2-}$
- C) $\text{K}^+ \left[\ddot{\text{Br}}: \right]^-$
- D) $:\ddot{\text{Br}}:\ddot{\text{Br}}:$

25. When a metal atom combines with a nonmetal atom, the nonmetal atom will

- A) lose electrons and decrease in size
- B) lose electrons and increase in size
- C) gain electrons and decrease in size
- D) gain electrons and increase in size