



Name: _____

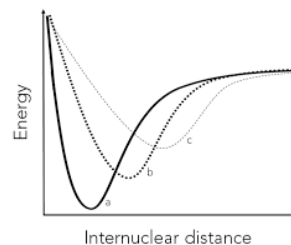
Period: _____

Assigned on Monday, January 12, 2026

2.1 Covalent Bonding**Due Tuesday, January 13, 2026**

1. The graph to the right shows the energies involved in the formation of three different covalent bonds: a, b, and c.

- Which bond is the strongest?
- Which bond is the longest bond?
- Which bond releases the most energy during its formation?



2. a) Identify each of the following bonds as either polar covalent bonds or nonpolar covalent bonds. Use the electronegativity values of each element to help you do this.

b) If the bond is polar covalent, draw partial charges on each atom or a dipole arrow to indicate the polarity.

a) C—F

b) H—Cl

c) O=O

d) H—P

e) C—N

f) Si=P

3. Why does the element chlorine exist as diatomic molecules rather than individual atoms?

4. Draw Lewis dot structures for each of the following substances.

a) carbon tetrafluoride

b) HCP

c) silicon dioxide

d) phosphorous trichloride

e) H₂CO

f) dihydrogen monosulfide

g) boron trihydride

h) nitrogen gas

i) nitrogen dioxide (this one is weird!)