

1. Define in your own words!
  - a. Covalent bond
  
  - b. Molecule
  
2. Atoms bond to achieve                     . They accomplish this by either transferring or                      electrons. Sharing electrons results in a                      bond. Once bonded the atoms have lower                      than the individual atoms had. Since energy is released in the process of bonding, it is classified as an                      reaction.
  
3. Two forces are always acting on the particle in an atom. The force that pulls particles together is known as                     , and the force that pushes particles apart is known as                     .
  
4. Describe how both attractive and repulsive forces during the formation of a covalent bond.
  
  
  
  
  
5. Despite the repulsive forces pushing them apart, electrons tend to stay together in pairs. Pair of electrons involved in a bond may be called a                      pair, while electrons not involved in a bond would be known as a                      pair.
  
6. Given the number of electrons, provide two names for the type of bond that would be formed.

electrons	Bond name #1	Bond name #2
2		
4		
6		

7. What must happen to break a covalent bond?

8. Look up the bond lengths for F<sub>2</sub>, O<sub>2</sub>, and N<sub>2</sub>. Create a graph of bond length on the x-axis and bond dissociation energy on the y-axis (see table 8.2 p. 247).

9. What relationship exists between bond length and bond dissociation energy?