Covalent Bonds

Properties

* weak
  + low melting and boiling point
* nonmetal and a nonmetal
* not conductive

Forming them

Using the dots

1. Write Lewis Dot Structure
   1. How many valence electrons does it have? (from families 1,2, 13-18)
   2. One dot on each side before two dots on any side
2. Identify dots that are by themselves on one side
3. Draw a line from single dot to a single dot
   1. Don’t pair two single dots on the same atom together!
4. You only get the number of elements that are given in the formula. If you still have single dots after drawing lines, break some bonds and try a different configuration.

Naming them

* The second element has an -ide ending
* The elements get a prefix based on how many there are
  + mono – 1 hexa – 6
  + di – 2 hepta – 7
  + tri – 3 octa – 8
  + tetra – 4 nona – 9
  + penta – 5 deca - 10
    - Only the second element gets the prefix mono-

Identifying the Shape

How many elements does the compound have?

no

Bent

yes

no

yes

linear

Pyramidal

Trigonal planar

Trigonal bipyramidal

Tetrahedral

Are there unshared pairs on the CENTER atom?

linear

Are there unshared pairs on the CENTER atom?

6

5

2

3

4