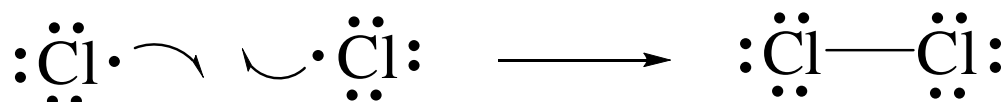


Lewis Structures for Molecules

Chlorine molecule

Chlorine atom has 7 valence electrons

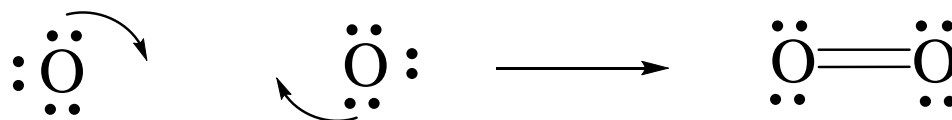
Each atom shares one electron to make a covalent bond ...



Oxygen molecule

Oxygen atom has 6 valence electrons

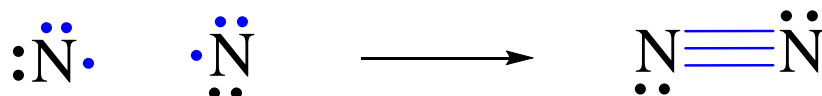
Each atom shares two electrons to make a double bond ...



Nitrogen molecule

Nitrogen atom has 5 valence electrons

Each atom shares three electrons to make a triple bond ...

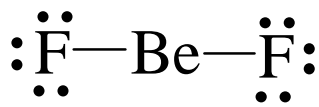


Each of these molecules has a shape called **linear**.
This is the only possible shape with only two atoms!

A molecule with three atoms may also be linear or the shape may be **angular** or “bent”

Beryllium fluoride

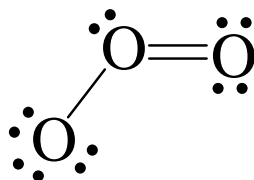
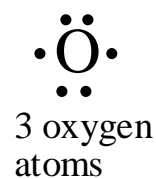
Fluorine has 7 valence electrons and beryllium has 2 valence electrons



molecular shape is **linear**

Ozone molecule

Each atom has 6 valence electrons

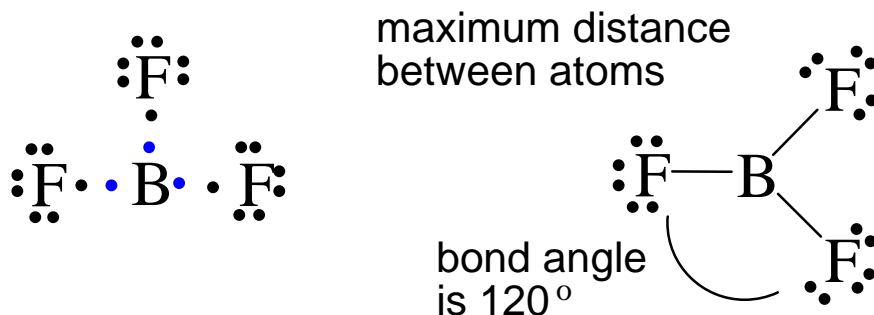


Molecular shape is **bent**

The shape of a molecule depends on the number of groups surrounding the central atom.

Boron trifluoride

Boron has 3 electrons and fluorine has 7 each

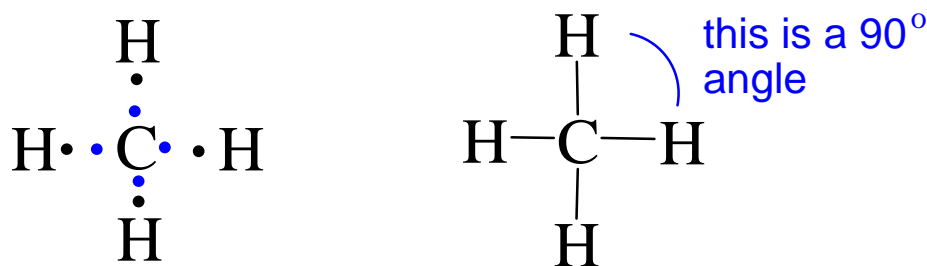


There are 3 groups around boron (the central atom)

Three groups produces a molecular shape that is **trigonal planar**

Methane molecule

Carbon has 4 electrons and hydrogen has one electron



There are four groups around carbon; four groups produces a molecular shape that is called **tetrahedral**

