Lewis Structures, sharing vs. owning, and how formal charge depends on these things.

Access electrons: total # provided around any atom of a structure; it is based on row number: capacity of the atom
Valence (usable) electrons: in the outermost shell of an atom; it based on column number

Owned electrons: all non-bonded electrons and half of bonded pairs (each atom owns half of the bond)

Second Row Elements have a capacity of 8 electrons - they typically provide 8 electrons in a structures (i.e. they have 8 electrons around them) - however, the 4 pairs can be bonds, lone pairs (nbe), or some combination....how does changing this combination change the nature of the atom? Complete this - the first is done.

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- **Column 7:** Increasingly unlikely to replace lone pair(s) with bond(s)
- **Column 6:** Increasingly unlikely to replace the bond(s) with a lone pair(s)
- **Column 5:** Increasingly unlikely
- **Column 4:** Cannot go further...carbon must open its shell to carry a positive charge
- **Column 3:** No lone pairs to replace with bonds...

A hypervalent example: Complete the Lewis structures by assigning formal charge to each S

Note the increased versatility for bonds and charges!