



# Ionic Bonds

- **Are bonds with differences in electronegativity that are 1.8 or greater.**



# Ionic Bonds

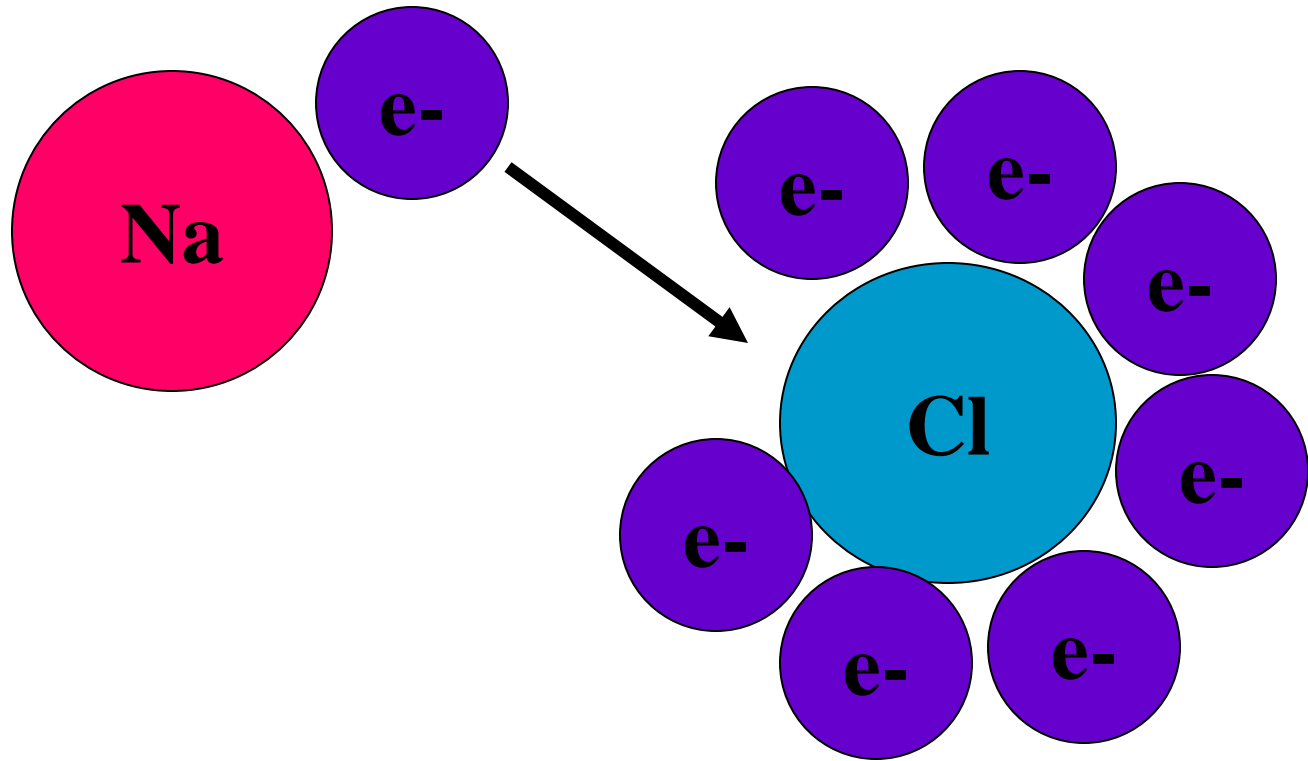
- **Do not share electrons, rather one element gives up electrons and the other takes them.**



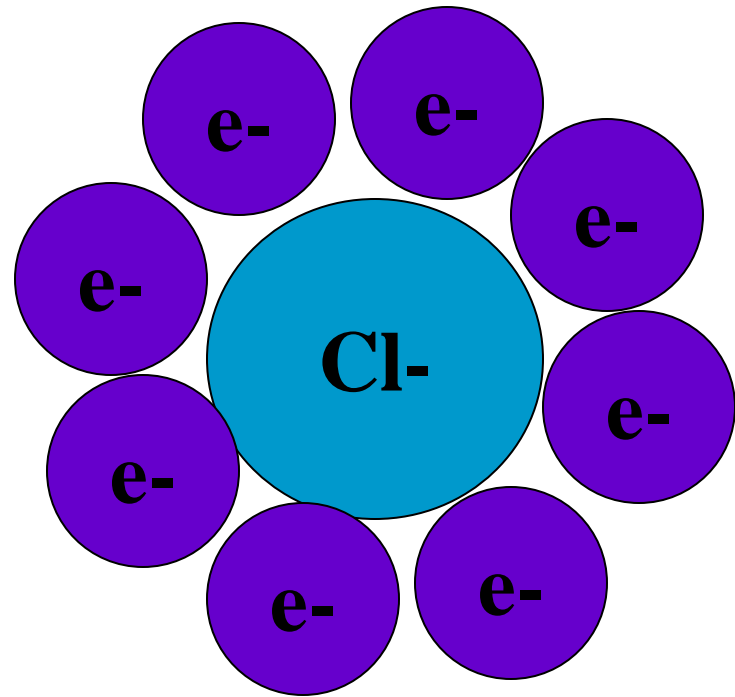
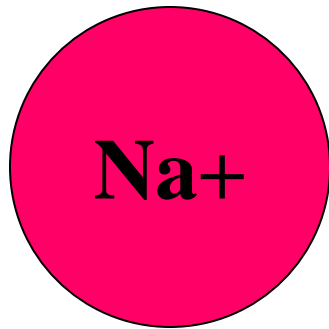
# Ionic Bonds

- Are electrically neutral, in that the number of “+” equals the number of “-” charges.

# Ionic Bonds



# Ionic Bonds





# Covalent Bonds

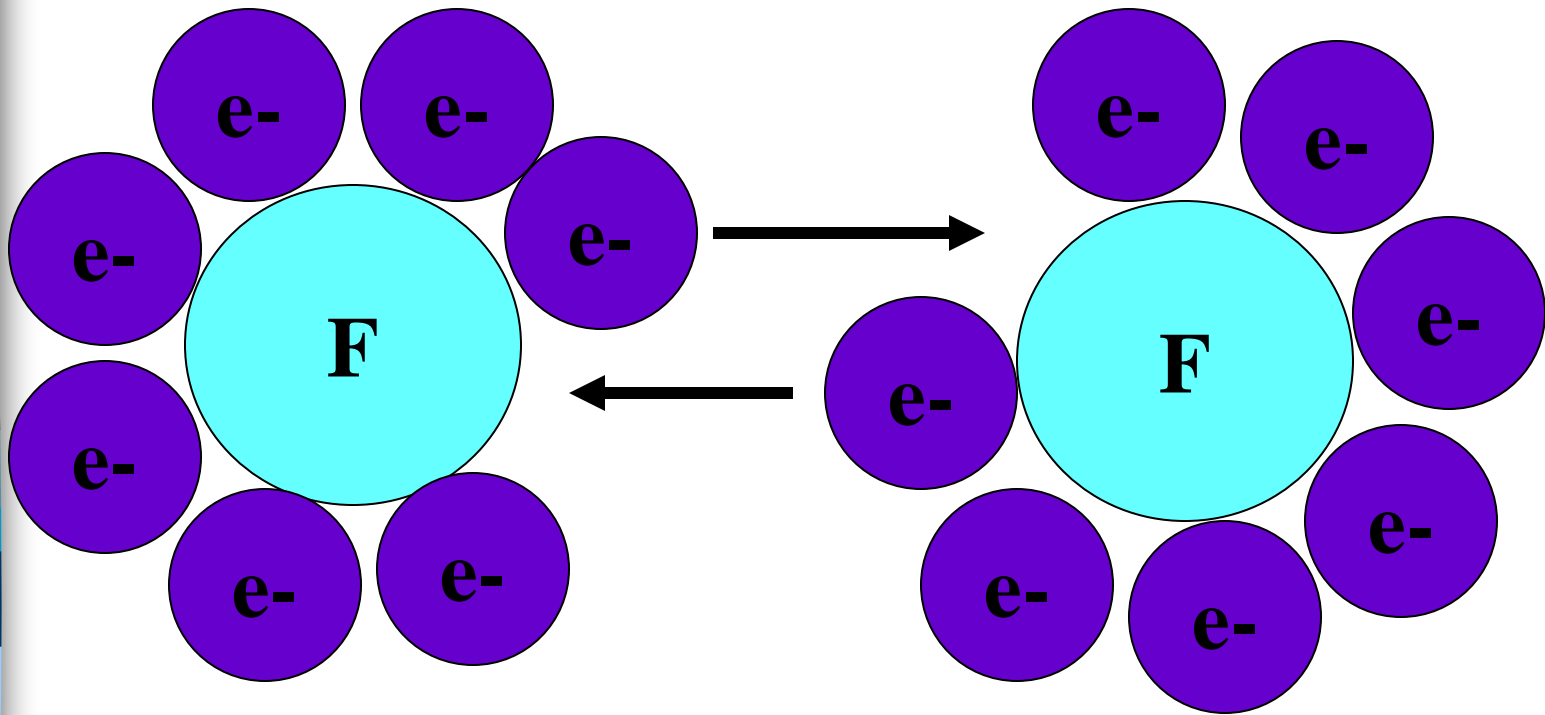
- **Are bonds with differences in electronegativity that are less than 1.8.**



# Covalent Bonds

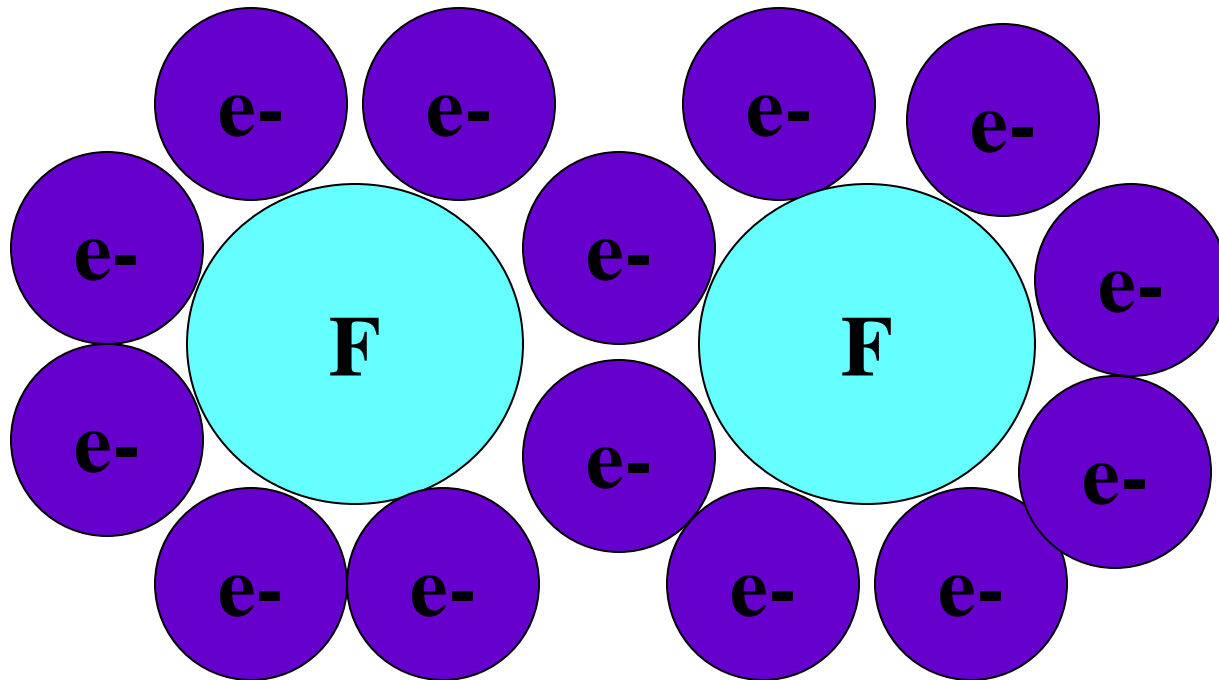
- **Share electrons more equally than ionic bonds.**
- **There can be a sharing of one, two or three pairs of electrons in a covalent bond.**

# Covalent Bonds

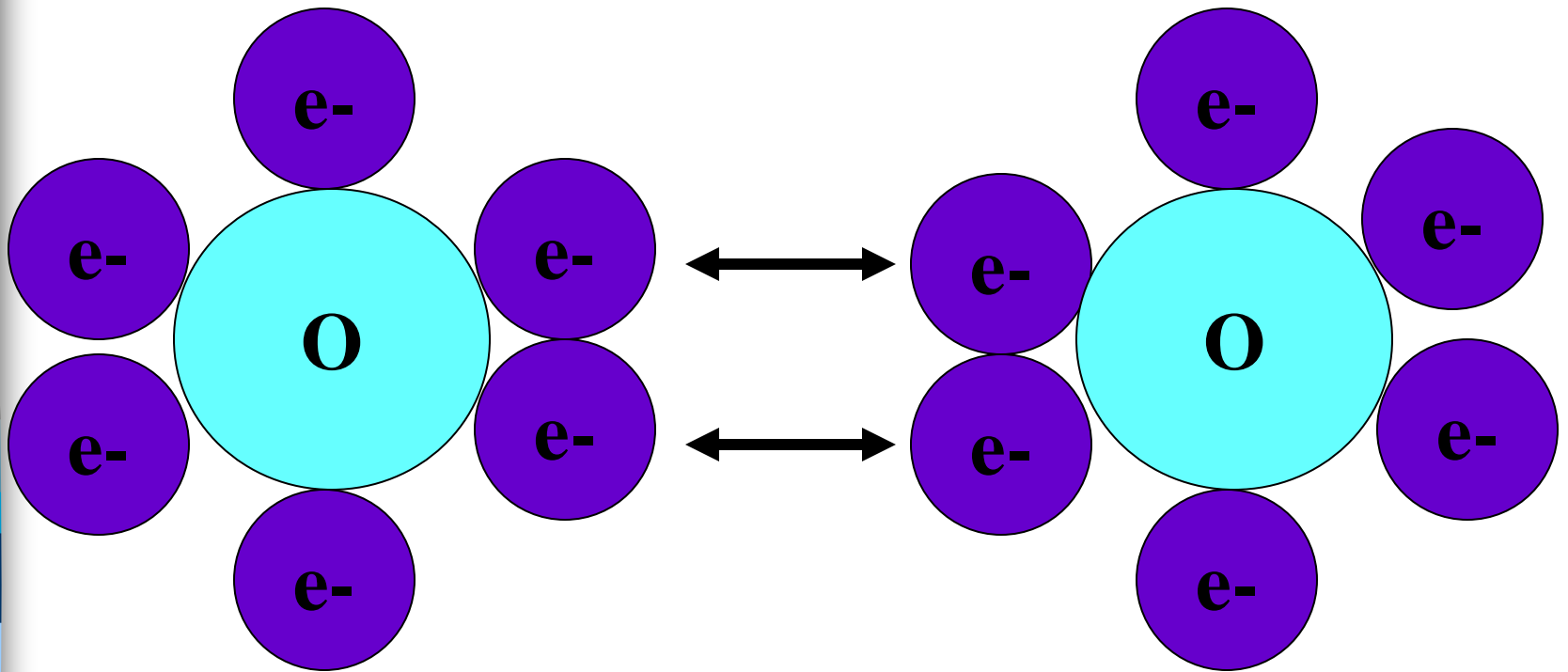




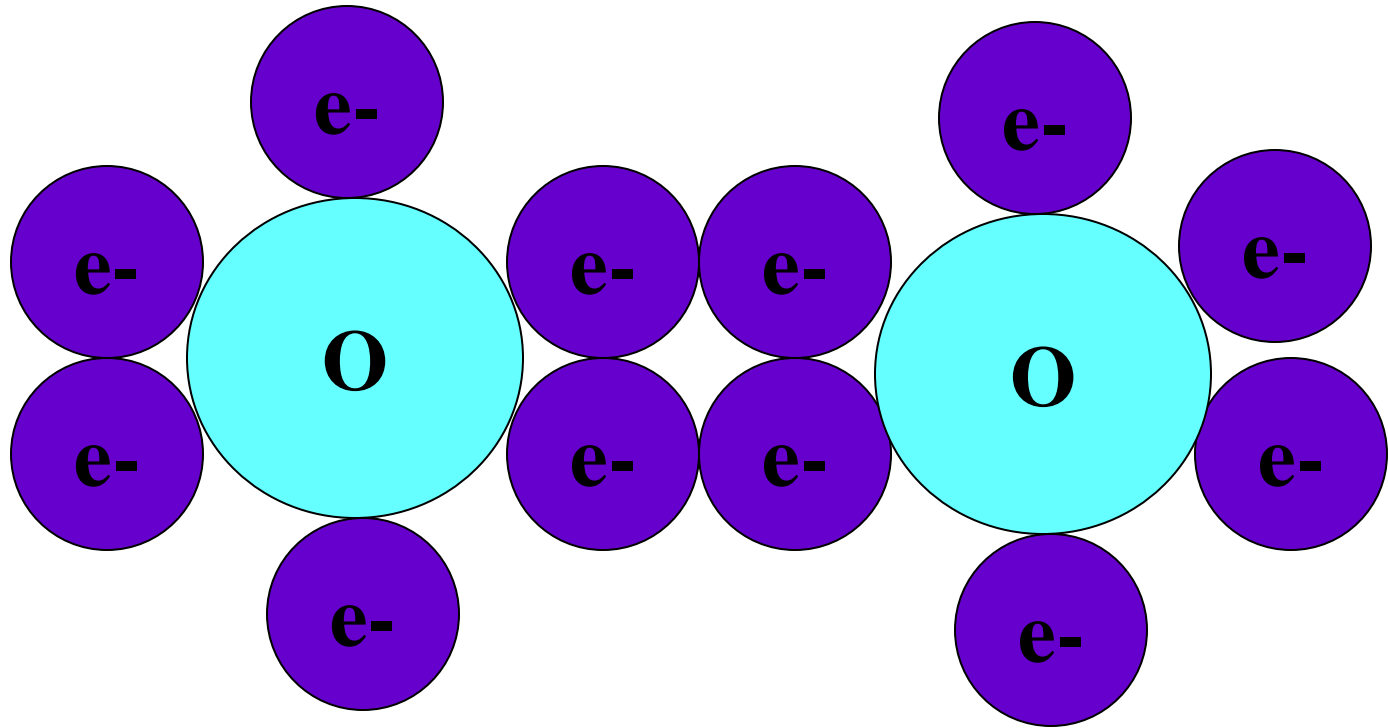
# Covalent Bonds



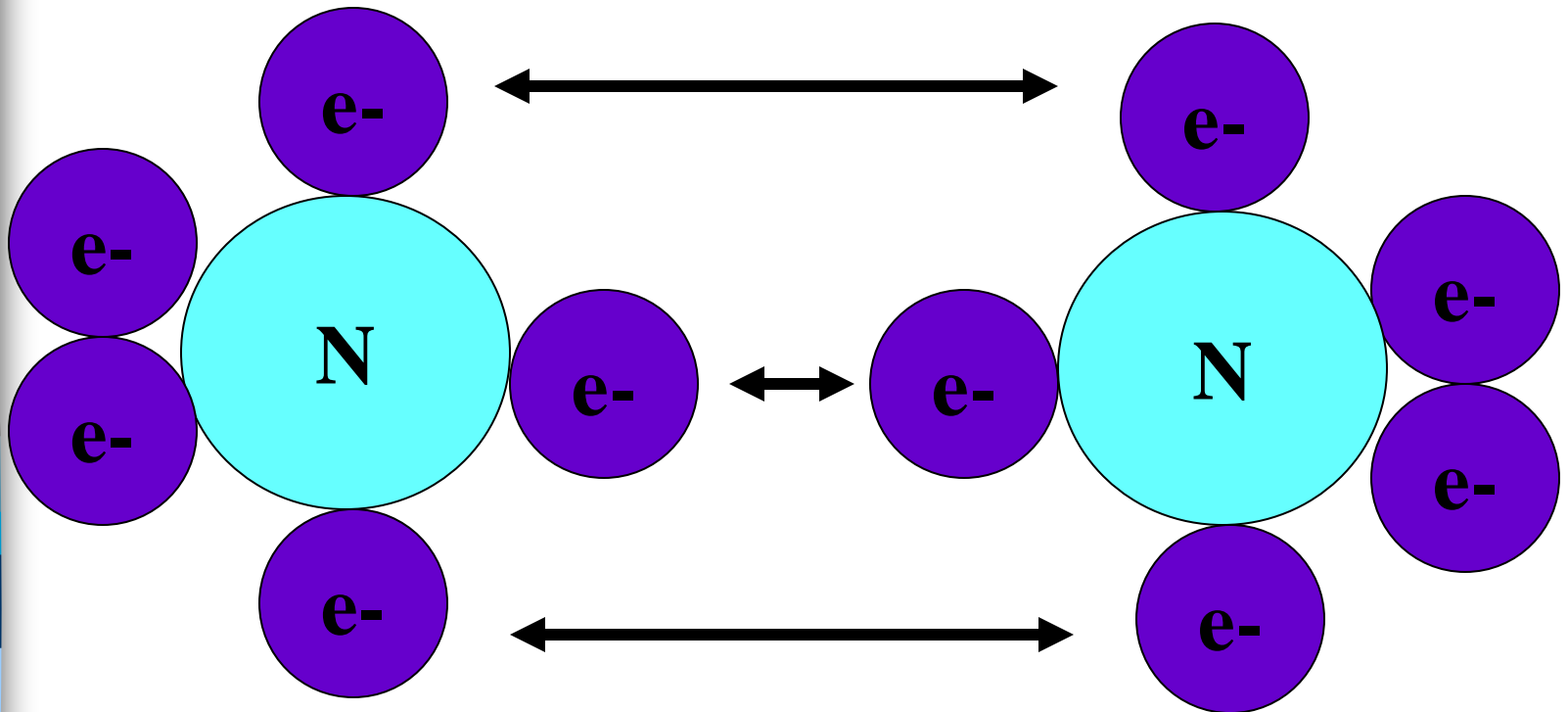
# Covalent Bonds



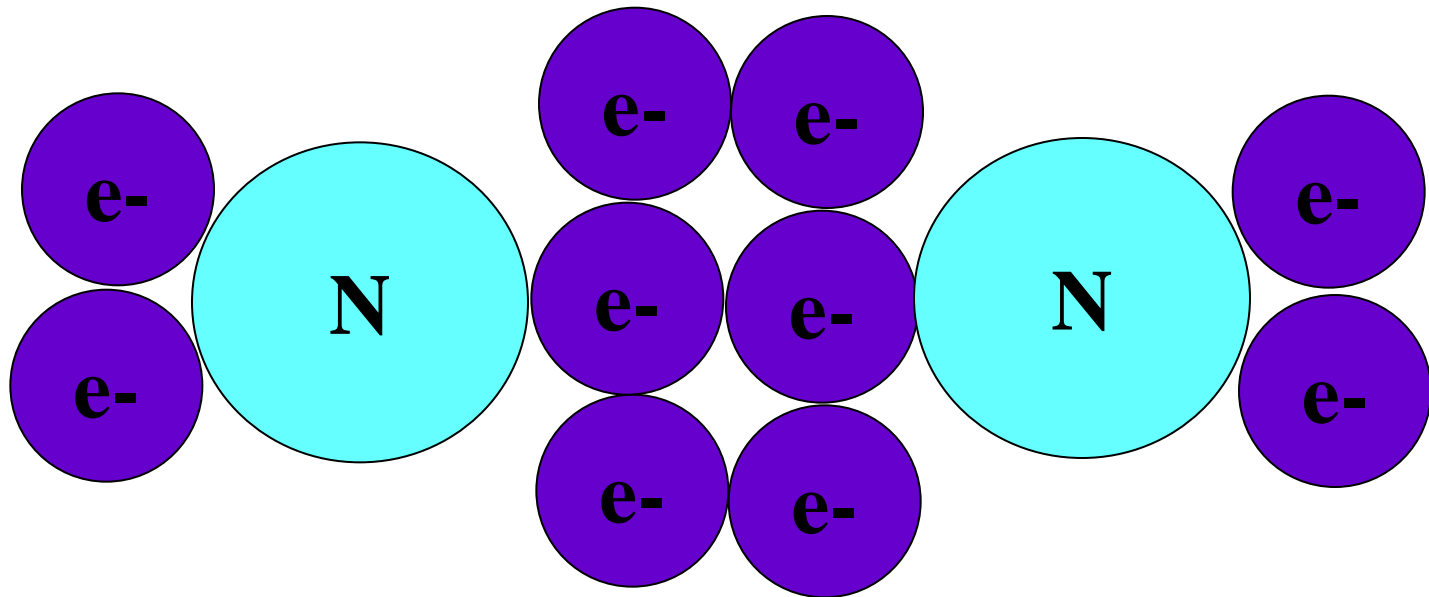
# Covalent Bonds



# Covalent Bonds



# Covalent Bonds





# Polar Bonds

- No Two elements have exactly the same electronegativity.



# Polar Bonds

- **Because of this, when covalent bonds form between different atoms, one of the atoms more strongly attracts the valence electrons of the other atom.**



# Polar Bonds

- This unequal sharing of electrons causes one atom to be more negatively charged and the other more positively charged, resulting in a polar bond.





# Polar Bonds

- **Have electronegativity differences of 0.6 or greater, and less than 1.8.**



# Non-Polar Bonds

- Bonds with electronegativity differences between the atoms that are less than 0.6.



# Non-Polar Bonds

- **Because this difference is so small, the electron attractive forces of each atom are almost equal.**
- **This results in a molecule with a relatively neutral charge.**