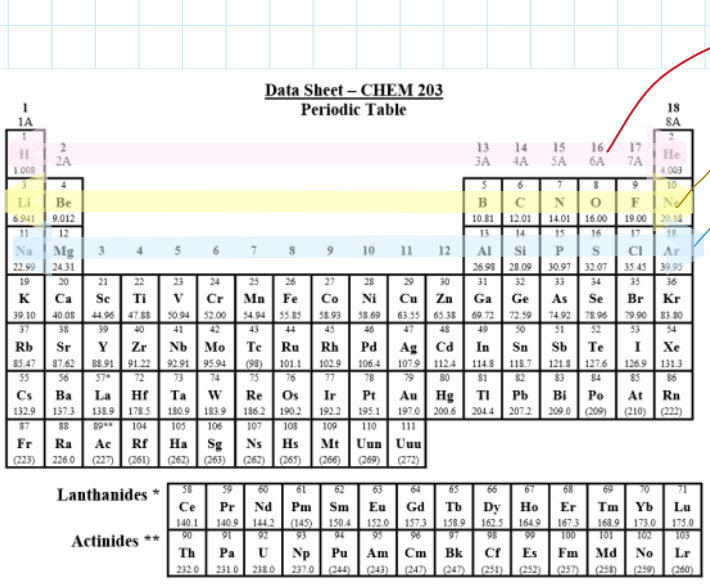
# bonding capacity




2e-

8e-

18e-

The shell closest to the nucleus, 1n, can hold two electrons, while the next shell, 2n, can hold eight, and the third shell, 3n, can hold up to eighteen. The number of electrons in the outermost shell of a particular atom determines its reactivity, or tendency to form chemical bonds with other atoms.
*(Khan Academy)*

**Table 1** Bonding Capacities of Some Common Atoms

| Atom | Number of valence electrons | Number of bonding electrons | Bonding capacity |
|---|---|---|---|
| carbon | 4 | 4 | 4 |
| nitrogen | 5 | 3 | 3 |
| oxygen | 6 | 2 | 2 |
| halogens | 7 | 1 | 1 |
| hydrogen | 1 | 1 | 1 |