

Electron Configuration

Electrons don't simply bunch up around the nucleus of an atom. They arrange themselves into orderly shells. You can think of it like the lanes on a circular athletics track. But, only a few electrons can fit into each shell. Therefore, atoms with more electrons need more shells.

How many electrons can fit in the **first** shell? _____

How many electrons can fit in the **second** shell? _____

How many electrons can fit in the **third** shell? 18

How many electrons can fit in the **fourth** shell? 32

And so on ...

This is a table of electron configurations of the first 20 atoms.

| Atomic Number | Element Name | Electron Shells | | | | | | |
|---------------|--------------|-----------------|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | Hydrogen | 1 | | | | | | |
| 2 | Helium | 2 | | | | | | |
| 3 | Lithium | 2 | 1 | | | | | |
| 4 | Beryllium | 2 | 2 | | | | | |
| 5 | Boron | 2 | 3 | | | | | |
| 6 | Carbon | 2 | 4 | | | | | |
| 7 | Nitrogen | 2 | 5 | | | | | |
| 8 | Oxygen | 2 | 6 | | | | | |
| 9 | Fluorine | 2 | 7 | | | | | |
| 10 | Neon | 2 | 8 | | | | | |
| 11 | Sodium | 2 | 8 | 1 | | | | |
| 12 | Magnesium | 2 | 8 | 2 | | | | |
| 13 | Aluminium | 2 | 8 | 3 | | | | |
| 14 | Silicon | 2 | 8 | 4 | | | | |
| 15 | Phosphorus | 2 | 8 | 5 | | | | |
| 16 | Sulfur | 2 | 8 | 6 | | | | |
| 17 | Chlorine | 2 | 8 | 7 | | | | |
| 18 | Argon | 2 | 8 | 8 | | | | |
| 19 | Potassium | 2 | 8 | 8 | 1 | | | |
| 20 | Calcium | 2 | 8 | 8 | 2 | | | |