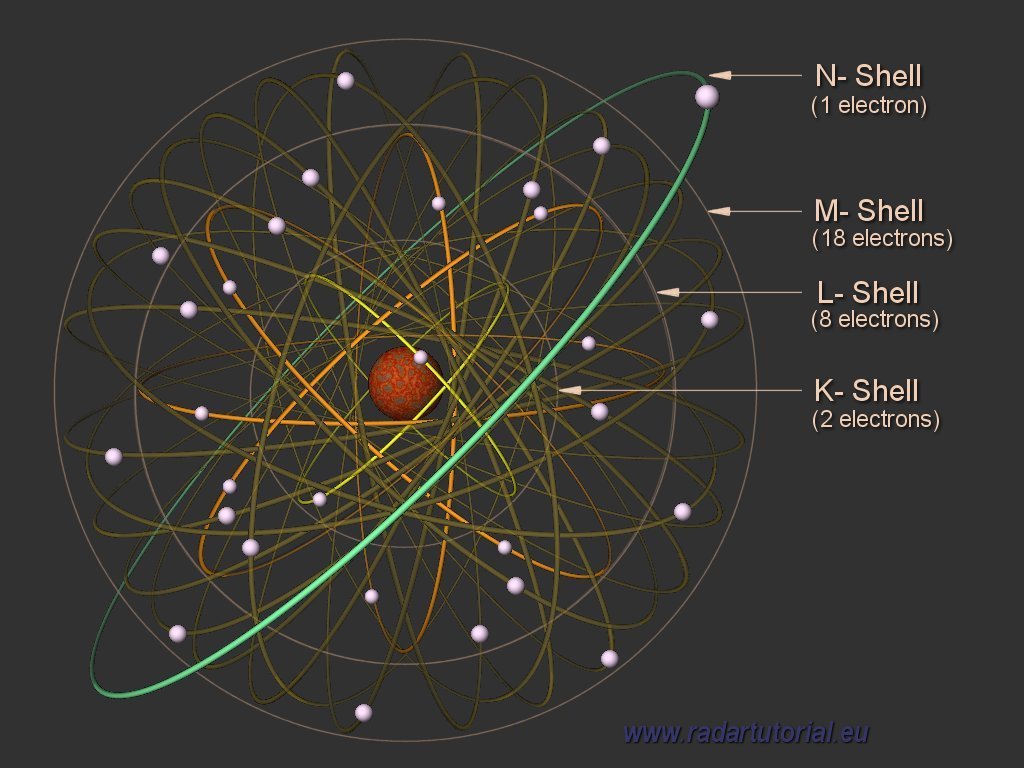
[](http://sg.wrs.yahoo.com/_ylt=A0S0zviVAzBNX3QAn7su4gt./SIG=12bamcvcd/EXP=1295021077/**http:/johndaltonfans.com/files/2008/12/john_dalton.jpg)

Discoveries of The

Atom

Today, scientists have evidence that atoms are made up of smaller particles, called subatomic particles. They are the protons, neutrons and electrons.

|  |  |  |
| --- | --- | --- |
| **Particle in atom** | **Mass** | **Charge** |
| **Proton** | 1 unit | positive charge (1 +) |
| **Neutron** | 1 unit | none |
| **Electron** | 1/1836 | negative charge (1 -) |

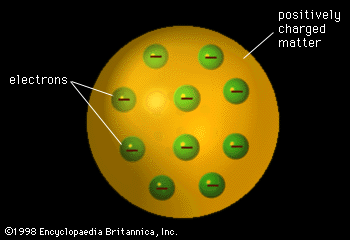
Based on the newest model of the atom, the atom has a nucleus. It consists of protons and neutrons. The electrons will surround the nucleus at nearly the speed of light. Most of the atom is empty space. The nucleus is only about the size of a pea in a football stadium (atom). The atom has the same number of protons and electrons thus, it is overall electrically neutral.

The Thomson Model

Timeline: 1897 (Thomson 1st findings)

Its was said by Thomson that atoms contains electrons and an electrons carries a negative charge.

Timeline:1903 (Thomson 2nd findings)



Thomson proposed a new model of the atom. He described the atom as a positively charged sphere with electrons pushed into it. It was something like a cake studded with raisins; the raisins were the electrons (as pictured above).

Note: The positive sphere in Thomson’s model is not a proton; the proton was discovered later. Although Thomson suggested that the atom is a positively charged sphere, he did not have any experimental evidence to support this hypothesis.

The Old Model of an

Atom

John Dalton (1766 - 1844)

In 1803, Dalton published his atomic theory. He viewed atoms as being like small solid balls that cannot be broken .

The old model of an atom

But after some time, in the late 19th century, scientists had experimental evidence that atoms are not solid balls, they could be broken. Therefore, Dalton’s model of the atom had to be changed to explain the new results.